ANGLIA RUSKIN UNIVERSITY

MOBILE BANKING FOR FINANCIAL INCLUSION IN PAKISTAN

ATIKA AHMAD KEMAL

A Thesis in Partial Fulfilment of the Requirements of Anglia Ruskin University for the Degree of Doctor of Philosophy

May 2016

Acknowledgements

'You were born with wings, then why prefer to crawl through life?' (Rumi)

Making the decision to embark on the PhD journey was never an easy one for me and now upon reflection, I realise that it was one of the best decisions of my life. What I have gained through this experience could not have been more enlightening, full-filling and humbling. During this journey, I must humbly acknowledge God's help and blessings in the completion of this thesis. I am grateful to the Almighty for providing me the strength and patience to finish this journey.

I would like to express my deepest gratitude to my supervisor, Dr. Lin Yan, for her guidance and dedicated efforts in making the PhD experience intellectually challenging and enjoyable for me. I am also extremely grateful to Professor Ruth McNally for her invaluable support, feedback and direction during the final stages of my PhD. I am also thankful to Dr. Ying Xie and Dr. Noah Karley for their precious time in offering enlightening comments on my thesis. As my research was funded by the three year Anglia Ruskin Studentship, I am highly indebted to the University for granting me the award.

This thesis could not have been possible without the kind assistance of the Chairman and staff at the Benazir Income Support Programme (BISP) in Pakistan who showed keen interest in my research and extended institutional and logistic support for data collection. I also appreciate the efforts of the staff at Telenor, Ufone, United Bank Limited, Alfalah Bank, Summit Bank and DFID in Pakistan for their valuable time in granting interviews for this study.

I would also like to sincerely thank my colleagues and friends for their encouragement during my PhD journey when we shared moments of tears, joy and success. I have made some excellent friends during this time, and I shall always cherish their fond memories. I hope that the bonds between us grow stronger over time, regardless of the part of the world we live in.

My heartfelt gratitude goes to my lovely parents who have always been a source of inspiration in my life. My father (PhD from Birmingham University, UK) profoundly influenced my thinking with his wisdom and always keenly followed my progress. My mother has been my greatest mentor at every crossroad in my life while spending countless hours praying for my success. They instilled in me the value of knowledge, passion for learning and the drive to succeed, and I hope one day this philosophy of life inspires my children as well. I stand where I am today due to their unconditional love and prayers.

An enormous debt of gratitude goes to my wonderful family in UK and Pakistan. My mother-in-law and (late) father-in-law who have shown extreme support and understanding at the most challenging times in my life. My sister Saima and brother-in-law Adil, for their kindness in graciously providing a retreat home in UK for rest and relaxation. My brother Usman and sister-in-law Fatima, for their help with my children while I spent countless hours away for data collection in Pakistan. My sister Sobia, for her sound advice given her recent PhD experience in UK, and brother-in-law Ali, for sharing insightful information on the banking sector in Pakistan. I would also like to sincerely thank all my family across the globe for providing constant words of motivation and emotional support. I don't have enough words to thank all of you individually, but no doubt, you have all contributed in the successful completion of this thesis.

In the end, I would like to dedicate my thesis to my beautiful children, Mekaal, Maaz and Mahad who I deeply love with all my heart. You have all been wonderful and remarkable in showing patience during the endless hours that I dedicated to this thesis. Thank you ever so much for being the stars in providing the light moments with your laughter and smiles during my work. Above all, I express my heartfelt gratitude to my dear husband Tariq, who has been my best friend throughout this journey, for always being there for me, uplifting my spirits and selflessly making my life easier by his generous help and moral support. Thank you for showing compassion, believing in me and enduring all the sacrifices during this phase of my life- you have truly been an angel!

ANGLIA RUSKIN UNIVERSITY

ABSTRACT

DOCTOR OF PHILOSOPHY

MOBILE BANKING FOR FINANCIAL INCLUSION IN PAKISTAN

ATIKA AHMAD KEMAL

Whilst the digitisation of government-to-person (G2P) payments, or government social cash, is becoming increasingly significant for governments to advance financial inclusion in developing countries, the role of mobile banking (m-banking) to promote this agenda remains under researched. The extant literature available on m-banking was delimited to person-to-person (P2P) payments that examined m-banking through an economic or technological lens from providers' perspectives. Hence, in this study, I have used the Duality of Technology (DoT) as a socio-technical lens to analyse m-banking innovation from both providers' and users' perspectives. The methodology used was a case study of the Benazir Income Support Programme (BISP) in Pakistan that disbursed G2P payments to poor women only. The study aimed to investigate the influence of the external and internal institutional forces on the social construction of m-banking, how m-banking enabled and/or constrained programme managers and women beneficiaries, and the effects of m-banking on the institutional properties of poor households for structural transformation, or financial inclusion in BISP households in Pakistan.

Primary data was collected from key participants located in the m-banking pilot sites of Islamabad and Rawalpindi in Pakistan. In total, 33 semi-structured interviews were conducted with BISP managers, women beneficiaries, bankers, mobile operator and international agency staff, and 2 focus groups were organised with women beneficiaries. Additionally, secondary data was drawn from company reports, official documents and formal and informal media sources. The qualitative data was thematically analysed, and the data collated from multiple sources and methods established the validity, credibility, trustworthiness and reliability of the conceptual outcomes in the case study.

The findings, interpreted through DoT, disclosed that m-banking was socially constructed to meet managerial objectives, and being socially-embedded in the BISP context, it was transformative in enabling managers to achieve transparency, visibility, security and efficiency in delivering G2P payments. From women beneficiaries' perspectives, m-banking provided flexibility and convenience to receive full payments, but embedded certain socio-economic, technological and human constraints that restricted their access to and usage of financially inclusive services that limited financial inclusion. However, owing to women's empowerment and social change, social inclusion was perceived to be progressively transformative. Although the findings informed the DoT framework, we conclude that the Information Communications and Technology for Development (ICT4D) discourse was deterministic for beneficiaries, unless combined with the Capabilities vision. As contribution to the study, we shed light on how m-banking may be redesigned to embed resources to expand women beneficiaries' capabilities and skills, in addition to, providing access to financial resources for steering micro-entrepreneurial activities. Also, financial and digital training should be imparted to beneficiaries to advance the inclusion agenda in Pakistan.

Keywords: Mobile banking, G2P Payments, Financial Inclusion, Social Inclusion, Duality of Technology, Capabilities Approach, Pakistan.

Contents

List of Figures

List of Tables

Notations

ADB	Agricultural Development Bank
AETP	Accelerating Economic Transformation Programme
AJK	Azad Jammu Kashmir
ANT	Actor Network Theory
AST	Adaptive Structuration Theory
ATM	Automatic Teller Machine
BDC	Benazir Debit Card
BISP	Benazir Income Support Programme
BoP	Bottom-of-pyramid
CA	Capabilities Approach
CCT	Conditional Cash Transfer
CDCP	Citizens Damage Compensation Programme
CGAP	Consultative Group to Assist the Poor
CNIC	Computerised National Identity Card
DDR	Disarmament, Demobilisation and Reintegration
DFID	Department for International Development
DoT	Duality of Technology
FATA	Federally Administered Tribal Area
G2P	Government-to-person
GCE	General Certificate Examination
GPS	Global Positioning System
HBL	Habib Bank Limited
ICT	Information Communication Technology
ICT4D	Information Communication Technologies for Development
IDA	International Development Association
IMF	International Monetary Fund
ISDC	Information Systems for Developing Countries
KYC	Know Your Customer
MDG	Millennium Development Goals

MFB	Microfinance Bank
MMS	Multimedia Messaging
MNO	Mobile Network Operator
MoU	Memorandum of Understanding
MPI	Multidimensional Poverty Index
NADRA	National Database Registration Authority
NCHD	National Commission for Human Development
NER	National Enrolment Rate
NGO	Non-Government Organisation
P2B	Person-to-business
P2P	Person-to-person
PDA	Personal Digital Assistant
PIS	Participation Information Sheet
PKR	Pakistani Rupees
PMT	Proxy Means Test
POS	Point-of-sale
PPAF	Pakistan Poverty Alleviation Fund
PTA	Pakistan Telecommunication Authority
SBP	State Bank of Pakistan
SCOT	Social Construction of Technology
SMS	Short Messaging Service
STLIC	State Life Insurance Corporation
TAM	Technology Acceptance Model
UBL	United Bank Limited
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Education Scientific and Cultural Organisation
USAID	United States Agency for International Development
USD	United States Dollar
USSD	Unstructured Supplementary Service Data
WAP	Wireless Application Protocol
WEF	World Economic Forum

Copyright

Chapter 1: Introduction

Chapter one presents a snap shot of my research and outlines the rationale for undertaking the study. The motivation for embarking on the research journey is highlighted and the research scope demarcates the boundaries of the study and conceptualises the literature from the domain of Information Systems for Developing Countries (ISDC), and more specifically, the Information Communication Technologies for Development (ICT4D) literature. After a brief background to the study, the significance of the government-to-payment (G2P) context in Pakistan is outlined to frame the research objectives and questions in the study. The chapter concludes with an outline of the thesis structure.

1.0 Significance of the Study

The topic of mobile banking (m-banking) in developing countries is particularly significant, as it is to my knowledge, one of the first academic study to explore m-banking innovation in government welfare programmes which disburse social cash, or government-to-person (G2P) payments to unbanked poor populations. As the Information Communication Technologies for Development (ICT4D) literature has been influential to inspire policy makers and governments in developing countries, many governments are pioneering digital technologies to deliver G2P payments to its poor citizens with the objectives to promote financial inclusion as part of the development agenda. Hence, financial inclusion is conceived as an intervention strategy, or incremental route for inclusive development to address poverty alleviation in developing countries (Chibba, 2009). To this effect, governments are trying to align both financial and social inclusion objectives into a unified policy for inclusive development of financially marginalised communities (Dancey, 2013). As prior research along these lines is scarce, in specifically, the use of m-banking for disbursing G2P payments, this study aims to contribute to the ICT4D literature by critically evaluating m-banking innovation in the G2P sector in Pakistan. In particular, whether m-banking advances the

government's financial inclusion vision forward for poverty alleviation through the structural transformation of impoverished households in Pakistan.

The literature on m-banking widely recognises the potential of mobile technologies to deliver G2P payments for increasing financial access in unbanked communities for inclusive development. As powerfully synthesised by Sachs, *'mobile phones are the single most transformative technology for development' (Sachs, 2007 cited in Etzo and Collender, 2010, p. 661)*. Hence, m-banking is perceived as an ICT- enabled route for financial inclusion, and it is this problem solving nature of mobile technologies which has made it a popular topic with respect to developing nations and has placed it at the heart of Information Communications Technologies for Development (ICT4D) research literature.

In this study, I have explored a socially significant government social cash programme- the Benazir Income Support Programme (BISP) in Pakistan within the context of an established research framework- Orlikowski's Duality of Technology (1992). The theoretical framework contributes to the study as it critically evaluates the use of m-banking to achieve the developmental aims in the programme that seeks to inform the ICT4D literature. After a critique of the ICTs for development discourse, the analytical framework is combined with the Capabilities Approach (Sen, 1999) that sheds light on how m-banking in the programme may embed resources to expand women beneficiaries' capabilities for micro-entrepreneurial development in order to align with the developmental agenda. Hence, by exploring the interplay between the economic, social, political and regulatory forces that influenced m-banking innovation in the G2P programme, and the effects of m-banking on the developmental outcomes, the study contributes to the ICT4D literature which feeds into the Information Systems (IS) and Development literature. In doing so, it extends the current theoretical and practical knowledge in understanding how mobile technologies enable and/ or constrain financial inclusion in households in developing countries.

1.1 Research Motivation and Scope

The motivation for undertaking this study was sparked whilst being enrolled in the MSc Management of Information Systems course at the London School of Economics, UK

from where I developed a special research interest in the field of technologies for development. Over the years, the passion for conducting research in this area grew, as I became more intrigued to explore how ICTs could be utilised by governments in developing countries to underpin their developmental agendas. Moreover, I was astonished to discover the rapid pace at which the mobile communications industry in Pakistan had developed over the last couple of years since my departure. As it came to my knowledge that the m-banking industry had considerably flourished in revolutionising the banking sector, amidst a vast majority of the unbanked population, this information, ignited further interest on the topic. Against this backdrop, when I read the preliminary literature on m-banking, in preparation of my research proposal, I found many gaps in the literature, especially, pertaining to the application of m-banking in the government sector for disbursing welfare payments and its link with financial inclusion (presented in Section 2.5 in Chapter 2).

In this context, I heard about the popularity of the Benazir Income Support Programme (BISP) - the Government's flagship programme for poverty alleviation that had implemented m-banking in certain pilot districts for distributing G2P payments to women beneficiaries. This presented an interesting case to evaluate m-banking design, its usage and its effects on households to determine financial inclusion. Hence, undertaking research seemed promising, especially, in a country where m-banking was deemed as the silver bullet for the country's socio-economic development. This further strengthened the rationale for embarking on a unique research journey to study m-banking innovation in the G2P context which was previously under researched. Furthermore, I anticipated that the findings from the study would not only have local implications, but would also be significant to influence international policies and practices for other G2P programmes in countries with similar socio-economic contexts. As there were potential contributions recognised after completing the study, I was very keen and enthusiastic to start the project.

The study draws on the broader Information Systems for Developing Countries (ISDC) literature that relates to how information communication technologies may be harnessed for development (Avgerou, 2008). As the unit of analysis is technology, or m-banking, the study is more specifically, situated in the ICTs for Development (ICT4D) domain as reflected in Figure 1.1. In essence, the ICT4D literature funnels to the mobile

technologies for development literature that conceptualises various approaches- socio-economic or capabilities approach- towards development. However, I specifically limit the research domain to m-banking, as used in the G2P context for disbursing social cash, or G2P payments.

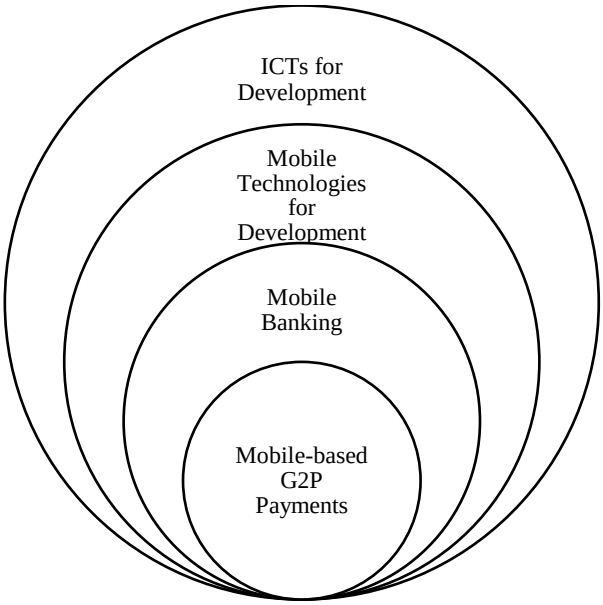

Figure 1.1: Scope of Study

Furthermore, I would like to clarify that the study does not apply an economic prism to objectively measure the financial impact of m-banking on G2P households. I have used structuration theory- the Duality of Technology (Orlikowski, 1992) as the theoretical framework to analyse the social construction, usage and structural effects of m-banking on the institutional properties of G2P households for financial inclusion in Pakistan. However, owing to the inductive nature of the research inquiry, the study unfolds new theoretical constructs that are integrated into the framework to offer new insights on the capabilities vision for human development. In this respect, the Capabilities Approach (Sen, 1999; 2000) offers a theoretical lens that sheds light on how m-banking is redesigned to embed the capabilities vision for enhancing human and financial capabilities, within the financial inclusion drive, to help households graduate from poverty.

1.2 Background to the Study

According to the World Bank, 2.5 billion people around the world do not have access to formal financial services, such as, savings, credit, insurance and payment services (Demirguc-Kunt and Klapper, 2012). As the majority of the population in developing countries remain financially marginalised, this creates an inequitable economic world that impacts on individual's socio-economic standing and well-being (Donner and Tellez, 2008; Duncombe and Boateng, 2009). However, an increasing body of research confirms that appropriate financial services may help improve household's welfare and spur small enterprise activities in underserved communities. There is also macroeconomic evidence indicating that economies with deeper financial intermediation tend to grow faster and reduce income inequalities. This explains why a large number of developing countries are making commitments to advance financial access and are pursuing national financial inclusion[1] strategies (CGAP[2], 2012).

Hence, policy makers around the world, including governments and international agencies, appreciate that an inclusive financial system that reaches out to all its citizens allows for more targeted and efficient execution of social policies. Policy makers are also aware that the depth of financial intermediation at the macro-level is positively correlated with economic growth (CGAP, 2012). As a result, many governments are switching their social cash transfers onto electronic platforms by leveraging on digital inclusive channels for disbursing a wide spectrum of government-to-person (G2P) payments to advance their financial inclusion agendas. Whilst G2P payments include social transfers, wage, and pension payments to an estimated 170 million poor people world-wide, the broad reach of these payments exploit digital platforms to promote financial inclusion (Ehrbeck, 2011). Research from middle income countries, including Brazil, Columbia, Mexico and South Africa provides critical insights in evaluating governments' costs, recipients' usage of accounts and the business case for financial providers. So whilst there has been increasing interest and efforts in disbursing digital

[1] The term 'financial inclusion' will be explained in Chapter 2.
[2] Consultative Group to Assist the Poor is an independent research and policy organisation dedicated to expanding access to finance for poor people around the world.

government-to-person (G2P) payments, the implications of these payments in increasing poor peoples' access to and use of financial services for innovative inclusion remains largely untapped in current studies (Pickens, Porteous and Rotman, 2009).

Although the exponential growth of mobile technologies has revolutionised the banking sector- via mobile banking as a vehicle for financial inclusion in developing countries, financial access continues to remain low as a proportion of recipients do not have mobile phone subscriptions (DFID, 2009). The resultant increase in the financial divide between the rich and poor affects the developmental outcomes for the Bottom of the Pyramid (BoP) in developing countries (Omole, 2013; Tarafdar, Singh and Anekal, 2013). Foster and Heeks (2013a) highlighted how mobile technologies created inclusive innovation, or pro-poor innovation, however, they failed to report how individuals were constrained by their capabilities to engage in financial activities. So whilst there has been a shift in applying Information Systems (IS) business models and theories developed in western countries to those in developing economies, the reality is that human, economic and social development issues continue to change as technology offers new applications although its diffusion is influenced by policy and infrastructure (Qureshi, 2014a).

Whilst studies have attempted to evaluate the intersection of mobile technologies with social and financial networks (Donner, 2008; Baro and Endouware, 2013), the significance of m-banking innovation in shaping the financial landscape in communities has been largely overlooked (Duncombe and Boateng, 2009). Moreover, there is little research on the opportunities and challenges that digital, or mobile technologies provide to promote the financial inclusion agenda in the G2P sector (Rotman, 2011; Ehrbeck, 2011). Hence, the academic community needs to explore the potentials that m-banking provides in increasing access to and usage of financial services through G2P payments, and the effects technology has on the developmental outcomes in financially marginalised communities. Invariably, scholars have highlighted the importance of a situated context in which mobile technologies are designed and embedded to enable or constrain the developmental efforts in developing nations (Qureshi, 2014a). So whilst implementing ICT, or m-banking programmes aspiring to the realisation of desirable world orders, such as Sen's Capabilities Approach (Thompson, 2008; Zheng, 2009) or the United Nations Millennium Goals for eradicating poverty (Gilhooly and Ocampo,

2005), it is requisite for governments, policy makers and m-banking practitioners to understand the relationship between m-banking design and its implications on innovative interventions within local institutions.

However, there is little research that examines the role of m-banking in disbursing G2P payments and whether it successfully connects impoverished households to an ICT-enabled economic network for reducing the urban-rural digital and financial divide in developing economies. In the light of this argument, it is therefore vital for the academic community to highlight the motivations of social actors in designing m-banking that significantly may drive the financial inclusion agenda in G2P programmes. Hence, my thesis focusses on the social construction of m-banking for disbursing G2P payments, and how its usage affects the institutional properties of poor households for structural transformation, or financial inclusion in G2P households in Pakistan.

1.3 Context of the Study

Pakistan is a developing country with a population exceeding 190 million (Pakistan Economic Survey, 2015). However, the penetration of formal financial services remains low, by any measure, as approximately 88 percent of the population is unbanked with roughly 23 million bank accounts, 11,600 bank branches and 6,232 ATMs across the country for the entire population (Anwar, 2013). This problem is particularly severe in rural areas, where there are fewer than 2,500 bank branches (CGAP, 2011a) for 61 percent of the rural population in Pakistan (Pakistan Economic Survey, 2015). As the problem of financial access remains low for the majority of the population, this exacerbates the financial divide between the poor and rich in the country.

Against this backdrop, a high mobile phone penetration of 73 percent (World Bank, 2014), amidst low financial inclusion indicators underpins the enabling environment for m-banking in Pakistan. Hence, a dynamic telecommunications sector and permissive regulator has laid the foundations for an emerging branchless banking sector (CGAP, 2011a). In June 2007, the Banking Policy and Regulations Department of the State Bank of Pakistan (SBP) released its Policy Paper on the Regulatory Framework for ‘Mobile Banking in Pakistan’. The Policy Paper stated that bank-led branchless banking offers a

distinct alternative to conventional branch-based banking, in the sense that the customer conducts financial transactions at a whole range of retail agents, or through mobile phones, instead of at bank branches. The Branchless Banking Regulations [3] were implemented in 2008 as articulated in the Policy Paper (CGAP, 2011a). The State Bank of Pakistan has therefore achieved international recognition for its enabling approach that has created a climate of certainty through the promulgation of branchless banking guidelines in the country (CGAP, 2012).

The fundamental requirements that support the growth of branchless banking are management capabilities for handling large operations, managing agent's network and distribution channels, and the utilisation of technology. Further, while the State Bank of Pakistan promotes the branchless infrastructure, it encourages the use of successful global practices, within a regulatory and supervisory mechanism that enables governments, financial institutions, including microfinance banks (MFBs) to develop viable business models. Branchless banking regulation[4] has thus taken a permissive and constructive regulatory approach by providing clear guidance for businesses to adjust regulations where necessary. As articulated in a CGAP (2012) report,

> Presently, the country is witnessing the beginning of a new retail banking revolution, whereby, a large segment of the population, previously unbanked, has started entering into a new realm of financial services (Branchless Banking Newsletter, 2011, cited in CGAP, 2012).

The Strategic Framework under the Financial Inclusion Programme launched in 2011, and supported by UK's Department for International Development (DFID) advocates inclusive financial services for underserved populations. Hence, there is cumulative demand and pressure on the economic sector to develop the necessary infrastructure to foster inclusive financial growth in the country. The strategy focusses on a variety of measures to accelerate the outreach of financial services in promoting alternative delivery channels, mobilising deposit, up-scaling for micro-enterprise development,

[3] According to the Banking Policy Regulations (2011), 'branchless banking' is defined to exclude information services, provided by banks to their existing customers via channels, including mobile phones, internet and SMS channels. This is because branchless banking targets the unbanked to promote financial inclusion, rather than encouraging models that are additive- providing services to existing customers.

improving governance, building institutional capacity and regulating mechanisms for microfinance providers (Kazmi, 2012). The Governor of the State Bank of Pakistan has remarked,

> Branchless banking and microfinance initiatives in Pakistan are among the hidden forces of resilience offering the best hope for the country's future- being in perpetual motion at the grassroots with ceaseless creativity, so people find affordable solutions to their basic needs (Anwar, 2013).

Furthermore, substantial growth in the branchless banking industry has motivated G2P programmes in the country to exploit digital channels for delivering G2P payments. Here, the role of technology is pivotal in extending alternative delivery channels in enabling the government sector to disburse G2P payments- via mobile technologies, point-of-sale (POS) devices, automatic teller machines (ATMs) or smart/plastic cards to communicate between banks and agents (CGAP, 2011a). Therefore, there is consensus between the government, policy makers and financial regulators to improve financial access for the unbanked poor through the use of innovative delivery channels (Anwar, 2013).

Currently, five established m-banking service providers in Pakistan offer a range of mobile financial services- Easypaisa, UBL Omni, Mobicash, Timepey and Ufone. Although branchless banking regulations provide licenses to banks only, it supports a range of business models[5] for government programmes to collaborate with banks or mobile operators under various business arrangements. These models are namely- bank-led, partnership-led, mobile operator-led or third party-led models, as classified in the literature in Chapter 2 (CGAP, 2011a; 2012). According to Rotman, Kumar and Parada (2013),

> Pakistan serves as an example of how public and private institutions together can move a country towards a digital financially inclusive system. Government and public actors have created the enabling environment and have provided seed funding, while private actors are developing the infrastructure, services and a long-term business case (Rotman, Kumar and Parada, 2013).

[5] The various models are described in further detail in Chapter 2.

Hence, branchless banking initiatives have enabled the government sector in Pakistan to digitise a large share of G2P payments to people. Whilst social cash transfers constitute around 11 percent of government payments, salaries make up 68 percent and pensions comprise of 21 percent of the total G2P flows (Rotman, Kumar and Parada, 2013). As financial inclusion extends the outreach of G2P payments in remote populations, the government keenly supports the branchless banking infrastructure to move the country towards a digital financially inclusive system. Hence, m-banking may promote financial inclusion if 1) G2P payments land into financial inclusive accounts in enabling recipients to store and execute financial transactions and 2) financial services are accessible to recipients in terms of cost and proximity. As highlighted by Pickens, Porteous and Rotman (2009),

> More vigorous research is needed to track how G2P recipients use financial services when connected to the financial system and whether it encourages any form of entrepreneurial development (Pickens, Porteous and Rotman, 2009).

All of this adds up to a case study that is both worthy and important in its own right and relevant to my research. Hence, it is valuable to investigate whether m-banking has a significant effect in transforming the socio-economic properties of impoverished households in the case study in Pakistan.

1.4 Research Questions and Framework

The research aims to critically evaluate the role of m-banking in disbursing social cash, or G2P payments, within the case study of the Benazir Income Support Programme (BISP) in Pakistan. BISP is the largest social cash programme in the country that targets women beneficiaries and has experimented with various digital instruments, including m-banking, in selected districts across Pakistan. The primary research question the study endeavours to address is the following:

To what extent does mobile banking in delivering G2P payments enable and/or constrain financial inclusion in poor households in the social cash programme?

The related sub-questions are cultivated in the theoretical framework, as illustrated in Figure 1.2.

RQ1) How is the social construction of m-banking design influenced by external and internal institutional forces in the G2P programme?

RQ2) How does m-banking in the delivery of G2P payments enable and/or constrain programme managers and women beneficiaries?

RQ3) How does m-banking affect the institutional properties of households for structural change, or financial inclusion in G2P households in Pakistan?

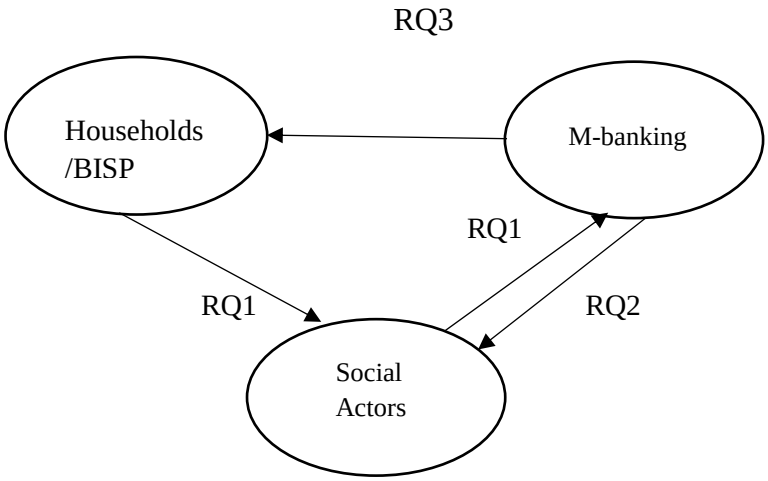

Figure 1.2: Research Questions Located in Orlikowski's Duality of Technology (1992)

The theoretical framework of the study, simplified and shown in Figure 1.2, is built on Orlikowski's Duality of Technology (1992) that embeds concepts from the social construction of technology (SCOT) to examine m-banking innovation in the G2P programme. It subscribes to the ontological nature of technology as being situated, or *socially-embedded* (Avgerou, 2008; 2010), and m-banking innovation is combined with the developmental outcomes in the framework. The *duality of technology* accounts for the recursive notion of technology, and in the context of this study, how m-banking is created and appropriated by human action, whilst it also conditions human action to produce and reproduce the institutional properties of organisations. By drawing on the external and internal institutional forces, social actors design m-banking which is a product of human action (RQ1) whilst it also assumes structural properties. Also, m-banking is enacted by both developers and users, who through *interpretive flexibility*, may appropriate and improvise its design and use. However, users are also conditioned by m-banking that enables and/or constrains them in their interactions with technology (RQ2). The framework further explores how m-banking effects on the institutional properties of households for socio-economic transformation, or financial inclusion (RQ3) in the study. Hence, the research framework helps us to understand the relationship between m-banking and its interactions with G2P programme managers and women beneficiaries at the individual and organisational levels for structural change. Detailed discussion on the framework is provided in Chapter 3.

However, the application of Duality of Technology (DoT) enables us to critically evaluate the use of m-banking for development in the BISP programme that informs the general ICT4D discourse in the literature. As the research progresses, owing to the inductive nature of the social inquiry, I extend the DoT framework through the Capabilities Approach (Sen, 1999). This sheds light on how the capabilities vision may be integrated within the framework to overcome technological determinism for women users and steer inclusive financial practices in G2P communities.

1.5 Thesis Structure

The thesis is articulated in seven chapters. A summary of the contents of each chapter is provided below:

Chapter 1 provides an introduction to the thesis and illustrates the significance of the study. It gives the reader an understanding of the motivation that inspired my work as well as the discipline of literature that shaped the scope of the study. The general background on mobile banking in developing countries against which this study is set is elucidated, especially, the context of m-banking in the G2P sector is unveiled in this chapter. The context of m-banking in Pakistan frames the research objectives and questions for the study. The chapter concludes by outlining the thesis structure.

Chapter 2 presents the literature review and defines mobile banking in developing countries. The first section of the chapter is crafted with a view to draw on the literature on m-banking practices for financial inclusion to arrive at the research focus for my study. The study focuses on m-banking for delivering G2P payments and outlines the various models to understand the connection between mobile-based G2P payments and financial inclusion as part of the phenomenon under study. The second section of the chapter positions the thesis in its theoretical research domain- that of Information Communication Technologies for Development. It maps the field according to the developmental approaches and then narrows its focus to the sub-domain of m-banking to which my contribution is directed. After highlighting the main theoretical perspectives and theories significant in the m-banking literature, it identifies the theoretical, empirical and methodological gaps in the literature. The chapter concludes by proposing the theoretical framework for the study that locates the research questions in the study.

Chapter 3 justifies the choice of the theoretical framework- Orlikowski's Duality of Technology (1992) that is used in the study. It discusses the limitations of other structuration theories and why the Duality of Technology presents the most appropriate prism to understand the relationship between m-banking interacting with social actors and the institutional properties of BISP/ households in the study. By subscribing to the social construction of technology and conceptualising the ontological nature of m-

banking, as being *social-embedded*, the research framework highlights the social construction of m-banking and its *duality*- whilst being enacted by BISP managers/beneficiaries, it *enables* and/or *constrains* designers and users. These effects may impact on the structural properties of institutions for socio-economic change in households. The chapter concludes by linking the theoretical framework with the conceptual constructs to propose the research questions in the study.

Chapter 4 illustrates the methodology used in the thesis that is informed by the philosophical stance in my study. The chapter underlines social constructionism and the interpretivist paradigm that influences the nature of the inductive research inquiry that is substantiated at the methods level for the collection of data in the study. The interpretive case study of the Benazir Income Support Programme (BISP), as a methodology, steers the research design and methods for the collection of qualitative data. By critically reflecting on my role during the research process, I highlight the axiology, critical reflexivity and ethical concerns in the social inquiry. The chapter also presents how the data was thematically analysed to arrive at the conceptual outcomes for the study.

Chapter 5 presents the case study findings from all three research questions. In the first section, it reflects perspectives on the construction of m-banking in the BISP programme taking into account views from various social actors at the institutional level. The second section interprets m-banking usage, as perceived by individual programme managers and women beneficiaries, whilst in the last section, the analysis shifts to the household level to present the findings on how m-banking affected the socio-economic properties of impoverished households. In doing so, the analysis discovers new themes that are pertinent to capabilities development in the study.

Chapter 6 discusses the findings in the light of Orlikowski's Duality of Technology that informs the ICT4D literature. The discussion is linked to key constructs within the theoretical framework that broadens our understanding of the research outcomes to address the research questions. The inductive nature of inquiry in the study extends the analysis beyond the Duality of Technology framework and explains why the Capabilities Approach needs to be complemented with DoT. The chapter concludes by theorising a framework that offers new theoretical insights on the ICT4D literature as key contribution to the study.

Chapter 7 concludes the thesis and provides a summary of the research outcomes to address each research question. It also highlights the scholarship achieved through the research in making contribution towards theory, methodology and practice of m-banking in developing countries. The chapter also examines the implications of the study for a variety of stakeholder groups- government social cash programmes, international donor organisations, banks and mobile operators. By linking theory to practice, the chapter proposes recommendations for policy and practice. In the end, I highlight the limitations of the study and discuss the potential for future research in the context under study.

Chapter 2: Literature Review - Conceptual and Theoretical

2.0 Introduction

In this chapter, the literature review is illustrated through a three-fold process. First, I define m-banking as used in the context of developing countries and its significance on financial inclusion with respect to the scope of m-banking payments. Second, the conceptual review presents a brief overview of various m-banking practices- focussing on G2P payments- that is the core of my research. Third, I present the theoretical review. As my research topic is 'Mobile Banking for Financial Inclusion in Pakistan', the study draws on the field of Information Systems in Developing Countries (ISDC)- a branch of Information Systems research concerned with how developing countries attempt to use ICTs for Development (Avgerou, 2008). After a brief review on the ICTs and mobile technologies for development literature in developing countries, I critically examine the various theoretical perspectives/ theories on m-banking. After highlighting the theoretical, empirical and methodological gaps in the literature, the theoretical and conceptual boundaries of the study become demarcated to propose the research objectives and questions in the study.

2.1 Mobile Banking for Financial Inclusion

The definition of mobile banking (m-banking) is context specific in developed and developing countries that has implications on the nature of research undertaken in those countries. Whilst in developed nations, it is usually classified under the standard definition[6] (as explained in section 2.1.1) in developing countries, including Pakistan, m-banking, additionally, is based on branchless banking to extend financial inclusion to financially underserved populations. Hence, I would like to clarify that my thesis subscribes to the branchless banking model- using mobile phones- for making G2P payments in Pakistan. As there is no universal agreement over what financial inclusion

[6] It is noted that the m-banking definition is also dependant on the interpretation in relation to the origin of the bank in a specific country.

entails, I will apply the definition synthesised in studies that conceptualise the scope of m-banking payments that are financially inclusive.

2.1.1 Defining Mobile Banking

In both developed and developing countries, mobile banking is defined as an extension of banking and financial services onto mobile networks and devices. Hence, characteristics such as time and location independence and secured transactions, through the use of personal mobile phones to identify the account owner and confirm the transaction are some key features of m-banking (Lee, Harindranath and Kim, 2015).

However, m-banking research has emerged as a relatively new but popular domain, so earlier studies have characterised it under the umbrella of electronic banking or e-banking (Cracknell, 2004). E-banking, traditionally, is classified as internet, or online banking and provides customers an alternative banking channel to access their electronic accounts, enabled by the internet, from their personal devices (desktops, laptops and tablets). However, with the increasing influx of the latest mobile devices- including smartphones, personal digital assistants (PDAs), tablets and multi-media readers that have integrated with wireless application protocol (WAP), e-banking has shifted to mobile digital platforms (Cruz, et al., 2010; Riquelme and Rios, 2010; Zhuo, Lu and Wang, 2010). In simpler terms, m-banking constitutes financial transaction through personal mobile phones and enabled by wireless protocols (Cruz, et al., 2010; Ndlovu and Ndlovu, 2013). The mobile channel is hence, a multi-faceted interactive network based on various wireless delivery technologies, such as short messaging service (SMS), multi-media messaging (MMS), wireless broadband, Bluetooth or Near Field Communication (Cruz, et al., 2010). Thus, m-banking, understandably, is hailed as the new service frontier in the new electronic environment (Wessels and Drennan, 2010) and is the evolutionary step building on the success of internet banking (Cruz, et al., 2010).

Nonetheless, compared with internet banking, m-banking provides banked users the *anywhere anytime* convenience of accessing their bank accounts (Wessels and Drennan, 2010; Zhuo, Lu and Wang, 2010). Hence, m-banking is not only a natural evolution of

internet banking, but also promises a digital alternative to other traditional bank channels (ATMs, internet banking and physical branches) by offering strategic and increased value for customers through ubiquitous access, convenience and mobility of accessing financial services (Puschel, Mazzon and Hernandez, 2010; Wessels and Drennan, 2010). These services cater for a full range of banking operations including information services (checking account balance) and financial transactions (transferring money between accounts, paying bills, depositing savings, accessing credit and insurance)- via mobile devices for *banked* customers (Puschel, Mazzon and Hernandez, 2010; Cruz, et al., 2010).

However, in developing countries like Pakistan, m-banking has also been applied in another context, in addition, to the aforementioned definition. It also refers to *SMS-banking* that is facilitated by branchless banking to *bank* the *unbanked population*. Financial institutions, or banks, partner with mobile operators to deliver financial services- via mobile technologies to increase financial access for unbanked communities (Ivatury and Mas, 2008; Demombynes and Thegya, 2012; Mas, 2012). Customer accounts are held at banks and are linked to mobile accounts on users' handsets (Donner and Tellez, 2008). Hence, most m-banking platforms have a banking application installed on customers SIM- enabling them to open a virtual mobile account, or *mobile wallet* in their handsets (Tobbin, 2012). So perhaps, *SMS-banking* is regarded as the most common technical protocol for small value transfers, or payments, owing to its simplicity and compatibility of usage in a variety of low-end handsets that are affordable by the poor (Mas and Kumar, 2008; Mas, 2012).

Since mobile phones do not have the potential to convert cash into electronic value, or dispense cash physically, and can only be used to transfer, or transform value electronically, *banking agents* act on behalf of banks for the cashing-in and cashing-out services. Banking agents, commonly known as retailers, include local post offices, airtime resellers and are also located in pharmacies, petrol stations and bakeries in underserved remote communities. Hence, branchless banking delivers financial services outside conventional bank branches using agents and mobile phones. Thus, banking agents are more accessible to local communities where there is an absence of traditional bank branches; either because of the infrastructural deficits or high costs associated with

the outreach of financial services to the poor (Lyman, Ivatury and Staschen, 2006; Mas, 2012). Therefore, by extending beyond the 'brick-and-mortar' structure of banks, m-banking extends financial services in underserved regions for financial inclusion (Ivatury and Mas, 2008; Mas, 2012). Whilst studies show that m-banking decreases the operational costs for banks by fifty to seventy percent, (Ivatury and Lyman, 2008; Ivatury and Mas, 2008), there is criticism that innovations that extend non-standard means of financial services to millions of users are associated with risks that destabilise the financial system (Kimunyi and Ndung'u, 2009).

Porteous (2007) categorises m-banking as consisting of activities that result in an entity's access to a range of banking products related to savings, credit and payments (transfer of value or bill payments) using a mobile phone. Similarly, according to Donner and Tellez (2008), the terms *m-banking, m-transfers, m-payments* and *m-finance* refer collectively to a set of applications that enable people to use their mobile phones to manipulate their mobile bank accounts, store value in an account linked to their handsets, transfer funds, access credit or insurance products. It was noted that the terms m-finance, m-money or m-banking were often used interchangeably in the literature (Donner and Tellez, 2008). However, in my research, m-banking is applied in the context of government-to-person (G2P) payments, as G2P payments constitute a sub category of m-banking practices. Many government programmes have realised the potential of mobile-based G2P payments as a means to increase financial access for unbanked populations in the developing world (Mas, 2012).

2.1.2 Scope of Financial Inclusion

Before I describe the various m-banking practices that aim to steer financial inclusion in developing countries, it is important to first understand the term *financial inclusion* as applied in my thesis.

Financial Inclusion refers to a *'state in which all working age adults have effective access to financial services provided by formal institutions' (CGAP, 2011b, p.8),* in particular, credit, savings, payments and insurance. In other terms, financial inclusion suggests the delivery of financial services at an affordable cost to the vast sections of the

financially excluded and low-income groups with the objective to extend the scope of financial activities to underserved groups in helping them to overcome poverty (Aduda and Kalunda, 2012; Meganathan, Kumar and Gandhi, 2015). Inevitably, there is not yet one generally accepted definition of financial inclusion. The vision of inclusive finance put forth by the United Nations Capital Development Fund identifies it as, *'access at reasonable cost of all households and enterprises to the range of financial services for which they are bankable including savings, credit, leasing and factoring, mortgages, insurance, pensions, payments and local and international transfers' (DFID, 2009).*

Other studies have extended the scope of financial inclusion beyond access and usage of bank accounts and formal financial services (Morawczynski, et al., 2010) to include measuring the quality, usage and impact of financial services (Aduda and Kalunda, 2012; Gomathy, 2015). Whilst quality relates to the relevance of the financial service to the lifestyle needs of the user, usage focuses on the permanence and depth of service used whilst impact measures the changes in the socio-economic lives of users (Aduda and Kalunda, 2012). According to some scholars, 'full' financial inclusion entails providing every household with access and usage to a suite of modern financial services, including savings, credit, insurance and payments, as well as, sufficient education, support and counselling to help customers make good decisions for themselves (Goland, Bays and Chaia, 2010; Sahrawat, 2010). The scope of financial inclusion as synthesised in this thesis is illustrated in Figure 2.1.

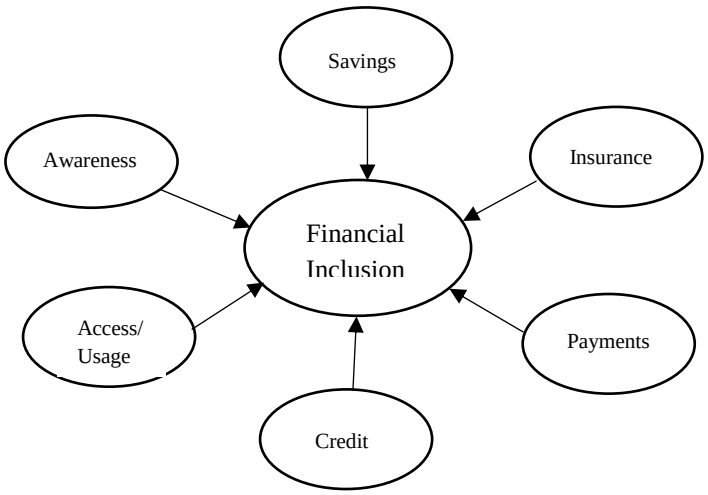

Figure 2.1: Scope of Financial Inclusion

Chibba (2009) further advocates financial inclusion as an inclusive development and poverty reduction strategy that manifests itself as part of the Financial Inclusion-Poverty Reduction-Millennium Development Goal nexus. Whilst on one hand, financial institutions aim to foster financial inclusion (Massey, 2010), on the other hand, governments also play a pro-active role in channelizing financial resources through digital technologies (Mas, 2012). This underpins their efforts to promote financial inclusion for the economic uplift of poor communities in developing nations (Kumar and Mishra, 2014; Mathew, 2014). Therefore, the provision of G2P payments through digital tools combines financial inclusion with poverty alleviation strategies (Oluwatayo, 2014).

Recent developments in technology, both delivery channels and access to financial services, has enabled branchless banking in transforming banking from traditional brick-and-mortar infrastructures to a system supplemented by other tools, for example, mobile phones, automated teller machines (ATMs), smart cards and credit/debit cards (Singh and Tandon, 2011; Mas, 2012). These initiatives have advanced the financial inclusion agenda in developing countries where mobile networks have extensively penetrated rural poor communities for m-banking developments (Mas, 2012). Research from Africa and Philippines revealed that mobile phone-based projects dominate reflecting upon the low levels of banking penetration and the poor state of fixed communication infrastructures as opposed to high penetration of mobile technologies (Ivatury and Mas, 2008; Mas and Ng'weno, 2010). Moreover, studies on Kenya's globally renowned mobile payment service, M-PESA, illustrated that low-cost approaches, using mobile technologies, effectively expanded the financial services frontier to bank financially underserved populations. By contrast, in Latin America, bank-based projects relying on magstripe/cash cards and point-of-sale (POS) terminals were utilised for increasing financial inclusion. Hitherto, irrespective to the digital tool deployed by the financial institution, the digital platform ensured that the bank extended financial services to users, thereby, offering convenience and reduction in transaction costs for both providers and users (Mas, 2009). In Section 2.2.1 of this chapter, the link between G2P payments and financial inclusion is explained in greater detail.

2.1.3 Mobile Banking Practices

In this section, I present a synopsis of the scope of financially inclusive m-banking practices- government-to-person (G2P), person-to-person (P2P), person-to-business (P2B), mobile savings (m-savings), mobile credit (m-credit) and mobile insurance (m-insurance) that are pervasive across the developing world. These financial practices are shaped by the latent demand in a given market, quality of existing alternative services, the regulatory environment and the market landscape for retail channels and mobile services (Jenkins, 2008; Heyer and Mas, 2009).

Government-to-person (G2P) Payments

Governments are swiftly switching to digital channels in transferring G2P payments to millions of recipients, not only to mainstream them into the financial sector, but with objectives to eradicate poverty through financial access, as the two initiatives go hand-in-hand. In Latin America and Asia, the government acted as the single largest payer for disbursing monthly salaries, pensions and social welfare transfers in the country. Thus, government-to-person (G2P) payments were particularly suited to the efficiencies afforded by m-banking solutions (Mas, 2009). In middle income countries, for example, Brazil, the government very early embraced digital payments to distribute its welfare benefits under the *Bolsa Familia* program. By doing so, the majority of recipients were banked with a card/POS-based model that evolved over the last ten years (Mas, 2009). On the other hand, in South Africa, a nation-wide digital social transfers system covered one-third of households (Heyer and Mas, 2009). In low income countries, M-PESA in Kenya and Tanzania had a limited partnership base with the government for administrating social welfare payments (Mas and Morawczynski, 2009).

Notwithstanding, research on digital G2P payments was found to be scarce in the literature, in particularly, the use of m-banking as a digital channel in distributing G2P payments. Some studies from Malawi and Columbia reflected on the use of m-banking in the G2P sector (Almazan, 2013) but offered limited insights on beneficiaries' usage and the link to the financial sector. Before reviewing m-banking practices in the context of G2P payments, I will briefly summarise other practices that are inclusive to serve the financial inclusion agenda in the G2P sector.

Person-to-person (P2P) Payments

A major bulk of the literature pertained to person-to-person (P2P) payments that emerged to be the most popular m-banking practice observed in developing nations. Although formal banking channels for money transfers existed, the commission fees charged by these channels was high and regressive, in particular, with respect to *south-to-south* remittance transfers (Sivapragasam, Aguero and de Silva, 2011). As bank transfers required prior ownership of bank accounts, this presented major barriers for the unbanked population in developing countries. According to research in Kenya, for instance, only 19 percent of the population had access to formally regulated services, whilst the absence of an inter-bank payment infrastructure made formal bank transfers costly. Hence, P2P transfers extended remittance services to millions with restricted access to traditional bank services and reduced transaction costs in terms of commission fees and transportation expenses (Ivatury and Mas, 2008; Mas and Morawczynski, 2009).

Jack and Suri's (2011) study from Kenya revealed that the majority of m-banking transactions constituted payments (49 percent) and receipts (45 percent). Hence, P2P payments formed a major bulk of mobile payments across rural and urban households in Kenya. Similarly, other studies resonated that P2P payments were pervasive amongst the urban migrant population as a result of migration that had split nuclear families in Kenya and Tanzania (Heyer and Mas, 2009; Morawczynski and Pickens, 2009; Morawczynski, 2009; 2011; Mas and Radcliffe, 2010). Other studies exhibited that the pattern of domestic remittances were reversed from rural to urban, especially, when parents sent money to their children studying in urban cities, as exemplified in Kenya, Uganda, Tanzania, Philippines and Latin America (Heyer and Mas, 2009).

However, in Philippines and Latin America, international migration resulting from globalisation-induced labour migration influenced international P2P remittance patterns (Heyer and Mas, 2009). Moreover, owing to higher risks, the market for international remittance transactions requires greater regulatory controls despite concerns that excessive regulation to mitigate risks may impede m-banking innovation in countries (Jenkins, 2008; Omwansa, 2009; Merritt, 2010). Other studies displayed that in the Middle East and Asia, *Hawalla* and *Hundi*, were well-developed informal networks of

foreign remittances that were formalised along major international migrant or diaspora corridors (Heyer and Mas, 2009; Sivapragasam, Aguero and de Silva, 2011).

This literature helps to assess whether G2P recipients in the study are also provided P2P payment facilities for transferring funds through m-banking that may underpin the financial sector in Pakistan.

Person-to-business (P2B) Payments

More commonly, person-to-business (P2B) payments are synonymous to mobile business within the wider spectrum of m-banking practices. In the literature these practices were found to be widespread in countries where basic telecommunication infrastructures were reasonably well-developed (Heyer and Mas, 2009). Hence, in Philippines, G-Cash and SmartMoney customers were engaged in m-banking activities for undertaking retail transactions, paying utility bills and buying air-time credits. In Brazil, the market for paying utilities was dominant as a regulated banking service (Mas, 2009). Studies from Pakistan also signified that the majority of m-banking practices were exclusive to P2B payments as various m-money schemes- Easypaisa, Mobicash, Timepey and UBL-Omni provided flexibility and convenience for making over-the-counter payments at multiple agent locations (Chen, 2012). Contrary to this, in Kenya, bill payments constituted a smaller chunk of m-banking services that accounted for approximately two percent of the M-PESA users in the country (Jack and Suri, 2011).

Hence, in the context of my study, it will be apposite to examine whether alternative financial services are offered to G2P recipients, such as paying bills from mobile phones that may have implications on the development of a digitally inclusive financial ecosystem.

Mobile Savings (m-savings)

Mobile savings refers to cash deposits- via cashing-in at banking agents, or retaining some electronic value in mobile accounts. However, the literature indicated that many G2P payment schemes did not support this functionality on beneficiaries' mobile accounts to underpin the wider financial inclusion agenda (Bankable Frontier Associates,

2009). In Kenya, M-PESA extended an independent savings product- M-Shwari (*Swahili for no hassle*) to its m-banking users (Africa Research Bulletin, 2013). However, studies confirmed that informal savings patterns were still prevalent, although *M-Shwari* offered Kenyan customers a new banking platform to operate savings accounts and earn interest on deposits under greater regulatory controls from the Central Bank of Kenya (Africa Research Bulletin, 2013). Moreover, the literature on G2P payments signified that a majority of beneficiaries in Malawi and Columbia, instantly withdrew their whole grant amounts that restricted the development of a financially inclusive system (Almazan, 2013). This may offer new insights in examining whether G2P recipients in this study have access to a savings product on their mobile accounts, or whether some amount is deliberately left in their virtual accounts as part of some savings scheme.

Mobile Credit (m-credit) and Mobile Insurance (m-insurance)

The increasing demand for m-credit and m-insurance has put pressure on financial providers to offer micro-payments to poor populations in order to mainstream them into the economic sector. Whilst the *M-Shwari* savings product in Kenya allowed customers to commercially access micro-credit through mobile phones, the maximum loan extended was subject to the value present in customer's *M-Shwari* account and offered lower interest in comparison to local banks (Africa Research Bulletin, 2013). In Philippines, G-Cash offered a more sophisticated range of m-credit services to customers- working in conjunction with the Rural Bankers Association of Philippines with the implementation of innovative services (Ndiwalana and Popov, 2008; Jenkins, 2008). In the context of my study, the provision of m-credit is essential for G2P beneficiaries to climb up the financial inclusion ladder to graduate from poverty. Indeed, it must be investigated whether G2P beneficiaries in the study are offered micro-loans that may help steer micro-entrepreneurial growth in poor communities.

2.2 Mobile Banking for G2P Payments- My Research Focus

As mentioned earlier, academic research on m-banking in the context of G2P payments was scarce in the current literature. In summary, the literature illustrated that in African

countries, such as Kenya and Tanzania, alongside Philippines, the majority of m-banking practices constituted m-transfers in the form of P2P payments or m-remittances. Alternatively, it was observed that international remittance patterns were higher in Philippines, as compared to Africa, where domestic remittances largely informed the bulk of the m-banking literature. On the contrary, in Brazil and in South Asia, including India, Bangladesh and Pakistan, over-the-counter bill payments were pervasive amongst users, in addition to a significant outflow of government-to-person payments (G2P) as social cash transfers.

Hence, I argue that the theoretical literature on mobile technologies to deliver government welfare payments to poor households is sparse. Arguably, it would be note-worthy to clarify our understanding of the link between m-banking for delivering G2P payments and the implications it has on structural change within households for financial inclusion. This warrants further research in the area and justifies the rationale for undertaking this study to examine how m-banking innovation in G2P programmes combines financial inclusion objectives with poverty graduation. Namely, in exploring the factors behind m-banking innovation pertaining to the digitisation of social cash, how m-banking *enables* and/or *constrains* social cash managers and G2P beneficiaries for financial inclusion in households.

2.2.1 Digital G2P Payments- The Link to Financial Inclusion

G2P payments constitute a variety of government flows to its citizens, including pensions, salaries and social cash transfers. In my study, G2P is used in the specific context of digital social cash and it is mandatory to clarify that the object of my study is 'm-banking' in the G2P sector. Before I discuss the implications of mobile-based G2P transfers on the financial inclusion agenda in middle and low income countries, an overview of social cash payments is briefly presented below.

During the past two decades, many social cash transfer programmes have emerged in developing countries for delivering social protection to economically deprived populations. Since their introduction in Latin America in the early 1990s, the popularity and support of social cash transfers amongst national governments, as well as the

international development community, has considerably increased. Social cash transfer programmes have therefore, moved *'from the margins of development policy towards the mainstream in a number of global regions' (Arnold, Conway and Greenslade, 2011, p. 7).* In this context, the term social cash is described as, *'regular non-contributory payments of money provided by the government or non-governmental organisations to individuals and households' (Samson, 2009, p. 43).*

Whilst social cash transfers may be conditional or unconditional, what is common to both is that they target impoverished households. Hence, the discourse in support of social cash is that they are *'effective in ameliorating vulnerability and chronic poverty and have wider positive impacts within recipient households and communities' (Devereux and Vincent, 2010, p. 368).* As the largest programmes have been implemented in middle-income countries- Brazil, South Africa and Mexico, only a minority of beneficiaries belonged to low average income households. However, recently, several pilots have been implemented in Sub-Saharan Africa and other low income developing countries in demonstrating the potential benefits of digital social protection for least developed countries (Bankable Frontier Associates, 2009; Barca, et al., 2010).

With the spur of branchless banking channels many governments are hence, leveraging on digital technologies to disburse G2P to millions of its poor people. Since branchless banking provides a low cost delivery channel for the disbursement of G2P payments, this reinforces government's incentives to exploit the infrastructure and transit to digital payments (Bold, Porteous and Rotman, 2012). The dramatic growth in the number of social transfer schemes has provided an unprecedented opportunity to use new digital payment channels to increase financial access, decrease operating costs and enhance the security and outreach of the beneficiary base. As electronic delivery methods differ with respect to the network of pay-points- automated teller machines (ATM), point-of-sale (PoS) devices, or mobile money agents, beneficiaries may access their accounts with smartcards, magnetic stripe cards, or mobile phones and identify themselves with biometric identifiers and/or Personal Identification Numbers (PIN). Hence, technology has simplified the receipt of G2P payments offering safety, convenience and affordability for recipients at a range of service points (Emmett, 2012).

Research indicates that harnessing the power of technology in making financial services accessible to the poor- via digital G2P payments fosters financial innovation for sustainable economic growth and development (Oluwatayo, 2014). A growing body of evidence shows that linking the delivery of social transfers with increased access to financial services increases the impact of social transfer schemes. Therefore, G2P payments are known to socially include low income households whilst the transition to electronic payments may combine social inclusion with the financial inclusion objectives for governments. Hence, governments are making increasing efforts to converge social inclusion and financial inclusion objectives within a single policy for poverty elimination (Zimmerman and Holmes, 2012). According to a World Bank Report (2001),

> Access to financial markets is important for poor people. Like all economic agents, low income households and micro-enterprises can benefit from credit, savings, and insurance services. Such services help to manage risk and to smooth consumption and allow people to take advantage of profitable business opportunities and increase their earnings potential. But financial markets, because of their special features, often serve poor people badly. Since poor people often have insufficient traditional forms of collateral (such as physical assets) to offer, they are often excluded from traditional financial markets. Transactions costs are often high relative to the small loans typically demanded by poor people. And in areas where population density is low, physical access to banking services can be very difficult (World Bank, 2001).

Hence, m-banking offers the digital route for governments to increase poor peoples' access to financial markets- via G2P payments. Governments, typically, contract with banks, or mobile network operators (MNOs) under various business arrangements which provide digital channels for the delivery of social cash into beneficiaries' bank accounts (Vincent and Cull, 2011). A text message informs beneficiaries that a payment has been transferred, and through this process, beneficiaries are banked and can cash-out their grants from a network of pay-points or agents (Oberlander and Brossmann, 2014). One major reason for the private sector involvement is that without their expertise and technological infrastructure, it is difficult for governments to transfer G2P payments independently (Oberlander and Brossmann, 2014).

Focussing on m-banking, governments leverage on the mobile banking infrastructure provided through agent channels that invariably decreases the initial set-up costs for both

partners in the electronic delivery of G2P payments. Initially, governments did not provide contracted agents with POS devices, or ATMs, but were required to arrange for mobile handset funding. In addition, the reduction in transaction, administrative and security costs were other realised benefits for governments to roll out m-banking projects in remote populations. Hence, mobile-based payments are known to considerably reduce corruption and fraud which may otherwise pose a heavy strain on programme budgets whilst yielding operational efficiencies for strengthening the business case for mobile payments (Almazan, 2013; Oberlander and Brossmann, 2014).

Studies from middle income countries showed that savings for governments can be achieved- via digital platforms that extend the outreach of G2P payments to a larger population of beneficiaries (Bold, Porteous and Rotman, 2012). For instance, Brazil, reduced the transaction costs of its *Bolsa Família* programme from 14.7 percent to 2.6 percent of the grant value (Lindert, et al., 2007). In South Africa, the variable costs for G2P programmes more than halved after the implementation of electronic delivery payment channels (Pickens, Porteous and Rotman, 2009). Furthermore, it was estimated that the Government of India may save up to USD $18.3 billion (28 percent of the total costs) per year, through decrease in corruption provided if all welfare schemes, including the National Rural Employment Guarantee Scheme (NREGS) disbursed digital workfare payments to recipients (Ehrbeck, et al., 2010).

However, it is noted that G2P payments disbursed through m-banking channels have not received much attention in the literature from low income countries. Although some studies briefly outlined how Banco Davivienda in Columbia delivered G2P payments using *Daviplata* mobile money, there was inadequate evidence on how the payments contributed towards financial inclusion success. Similarly, in Malawi, Airtel distributed G2P payments to 23,000 families through Airtel Money on behalf of Save the Children and the World Food Programme, but owing to the small scale of the project, the impact on the financial inclusion indicators were rather unpronounced (Almazan, 2013). Another programme that used m-banking for disbursing G2P payments was the Disarmament, Demobilisation and Reintegration (DDR) programme in the Democratic Republic of Congo that paid monthly demobilization allowances of USD $25 to retired soldiers, residing in villages that were well beyond the reach of the country's restrictive financial system (Bankable Frontier Associates, 2009).

Nonetheless, other studies observed how some humanitarian agencies, or NGOs in the private sector, partnered with mobile operators to deliver aid money to beneficiaries during emergencies in developing countries. In Haiti, it was found that several NGOs relied on mobile technologies for their emergency relief work in the aftermath of the earthquake in 2010 (Smith, et al., 2011; MacDonald and Gedeon, 2012). Also, the Post-Election Violence Recovery Programme in Kenya used M-PESA to deliver cash to 37,000 individuals (Barca, et al., 2010). In 2010, Concern, an aid agency, attempted to reduce operating costs and increase benefits to recipients after partnering with the MNO-Airtel to facilitate the transfer of mobile payments to approximately 4000 households affected by drought related food insecurity in Niger (Aker, et al., 2011; Smith, et al., 2011). However, research suggests that agencies implementing new digital payment platforms in emergencies with the poorest sections of society are more likely to face challenges, arising from poor network and infrastructure, users' lack of experience with technology, low literacy and lack of agent capacity. This underlines the importance of context specific factors in contributing to the success of m-banking programmes in low-income countries (Smith, et al., 2011).

Whilst policy agendas have sought to increase the use of digital channels to connect poor households to the financial sector- via G2P payments, so far, the potential that m-banking provides to increase poor people's access and use of financial services remains untapped in current studies. Since the level of financial inclusion achieved is reliant on the type of m-banking model and the nature of accounts provided by the financial institution, this is further explained in the subsequent section.

2.2.2 Mobile Banking Models for G2P Payments

As the research focuses on m-banking, as a digital channel for disbursing government-to-person (G2P) transfers, Mas (2012) identifies that the market for transferring welfare payments by government social cash programmes is mostly tapped by larger banks to increase financial outreach to serve wider populations. Hence, the government may collaborate with institutions under a variety of business models with banks (*bank-led* or *partnership-led model),* mobile operators (*mobile operator-led model)* or as third party *(third party-led model).* These various models are contingent upon the country's local

political, regulatory, economic, and consumer's socio-culture and demographic environments (Jenkins, 2008; Merritt, 2010). What was found unique was that every model varied in terms of the institutional relationship, technology platform, services, user interface and security and policy regulations in the specific local context (Ndiwalana and Popov, 2008; Mas, 2009).

According to Porteous (2007) when m-banking models absorb the unbanked population, m-banking is *transformative* in shifting the financial access frontier outwards for un-banked customers. By contrast, *additive* models in developing countries offer alternative banking channels for banked communities. In this context, it will be useful to summarise the various financial inclusion models as presented in the literature (Porteous, 2006; 2007; Mishra and Bisht, 2013).

Bank-led Model- In the bank-led model, it is evident that the financial institution controls the relationship between the bank and mobile operator in the provision of mobile services, as an alternative channel, to existing bank services (Merritt, 2010). As the model demands a banking license for banks, it has the advantage of advanced treasury, risk management and fraud detection skills with access to capital markets and investment opportunities (Mas, 2009). Also, the conservative nature of the model restricts banking institutions in extending financial outreach- despite the level of safety it ensures. So when tightly coupled with banking requirements, the bank-led model is based on float[7] (interest rate) and product cross-selling that limits financial outreach for unbanked populations (Ndiwalana and Popov, 2008; Mas, 2009). Furthermore, by operating a costly infrastructure, especially at the front-end (agent branches) and back-end (bank) the model is restricted in banking under-served communities (Mas, 2009). Thus, Porteous (2007) describes the model to be mainly *additive* in nature, as it typically fails to absorb the majority of the unbanked population in developing economies.

Mobile Operator-led Model- On the contrary, studies show that the mobile operator-led model, limits, or eliminates, the involvement of financial institutions in the payment, delivery, clearing and settlement of mobile accounts, as mobile operators drive the entire

[7] In economics, float is defined as duplicate money present in the banking system during the time that elapses between when a check is deposited into a bank account and when the funds are available to the recipient, during which period the bank is collecting payment from the sender's bank. It can also be used as an investable asset, but makes up the smallest part of the money supply- adopted from the financial dictionary.

value chain of financial services (Porteous, 2006; Ndiwalana and Popov, 2008; Merritt, 2010). In this sense, mobile operators dominate the m-banking ecosystem in creation of the customer relationship, provision of the service distribution channel and the clearance and settlement procedures with customers. Such models thrive better in emerging markets, owing to their penetrating agent networks that extend financial outreach in physically remote locations (Porteous, 2006; Mas, 2009). So whilst mobile operator-led models at the front-end may be more prone to reputational and financial risks, they are primarily responsible for the brand, image and reputation of the m-banking service (Mas, 2009). Nevertheless, studies illustrated that mobile operator-led models extended the geographic outreach for *transformative* services for unbanked customers. Arguably, this permits the penetration of financial services beyond providers' own geographic borders and regulatory jurisdictions to increase the scope of financial inclusion in underserved populations in developing nations (Porteous, 2006; 2007).

Partnership-led Model- As the name implies, in the partnership-led model, the financial institution and mobile operator collaborate jointly to provide financial services. The model eagerly drives interoperability amongst banks and mobile operators, and possibly, exploits each partner's strength- in terms of providing customer service, innovation and an environment of sound regulatory compliance (Merritt, 2010). Whilst customer accounts are issued and maintained by the licensed bank, the mobile operator is responsible for the branding and distribution channels. However, studies confirm that banks are subject to regulatory controls and are therefore accountable for the financial transactions undertaken by customers (Porteous, 2006).

Third Party-led Model- Although the involvement of a third party is typically classified as a *third party-led model*, the dominant agency behind the transfer of funds is still either a microfinance provider, bank or mobile operator that dictates the nature of the m-banking model, business case and the extent of financial access provided to customers (Merritt, 2010). Although government programmes, microfinance institutes, or private agencies collaborate with banks or mobile operators, they possess less power over larger banks in the delivery of mobile payments to customers (Mas, 2009; Mishra and Bisht, 2013). As this model is deemed to be the most flexible, it is perceived to be the most *transformative* for financial inclusion (Porteous, 2006; 2007).

In the next section, I review how the nature of accounts provided to beneficiaries delineates the level of financial inclusion achieved in households in the study.

2.2.3 Nature of Accounts for Financial Inclusion

Studies validate that with appropriate experimentation, digital G2P payments have the potential to become a vehicle to extend financial inclusion and improve the welfare of poor people. Whilst evidence from G2P pioneering programmes in middle income countries suggested that poor people use financial services if provided access, it was found that 45 percent of G2P programmes, launched in the last ten years, deployed a digital payment platform, and thereby, created a foundation on which a financially inclusive account could be offered to beneficiaries in future (Pickens, Porteous and Rotman, 2009). Yet, in most countries, it was observed that less than one quarter of G2P payments landed in a *financial inclusive account*- that would have otherwise enabled G2P beneficiaries to store or deposit funds, access loans and insurance, as well as increase access in terms of cost and distance (Pickens, Porteous and Rotman, 2009).

In the context of my study, the nature of mobile accounts provided by the financial provider is critical in determining the level of financial inclusion achieved by poor G2P households. CGAP research from Brazil, Columbia, Mexico and South Africa compared the various payment approaches and highlighted that the majority of the accounts provided to beneficiaries were typically *limited purpose instruments* after the transition from cash to digital payments (Bold, Porteous and Rotman, 2012*).* Limited purpose instruments are defined as notional accounts, earmarked for beneficiaries into which grants are transferred to provide flexibility in time and locations for withdrawing payments. In simpler terms, limited purpose accounts are mainly conduit accounts that are restricted to withdrawals only and limit beneficiaries' access to other banking facilities, including money transfers, depositing savings and accessing credit and insurance facilities. Hence, the two features- electronic deposit of funds and transactional capability are some of the fundamental requirements of a financially inclusive account. However, a third feature- accessibility can be achieved through branchless banking channels that provides multiple cash-out points, especially, where bank branches are not feasible (Bold, Porteous and Rotman, 2012).

Table 2.1 displays the nature of bank accounts that either provide restricted functionality, or a full range of financial services to beneficiaries in G2P programmes to determine the level of financial inclusion achieved. Whilst limited purpose accounts offer 'limited' financial inclusion, mainstream accounts help households attain 'full' or higher levels of financial inclusion.

Physical cash	**Limited Purpose Instrument**	**Mainstream Financial Account**
Must make withdrawal in full- usually at a particular time and location.	Functionality restricted in one or more ways:	Functionality permits all of the following:
Not Electronic	Cannot store funds indefinitely.	Can store funds indefinitely.
	Cannot access funds outside the dedicated infrastructure.	Can access funds through the mainstream financial infrastructure.
	Cannot deposit additional funds.	Can deposit additional funds.
	Electronic	**Electronic**

Table 2.1: Nature of Accounts Linked to Level of Financial Inclusion
Source: Bold, Porteous and Rotman (2012).

On an optimistic note, financially inclusive arrangements may enhance the developmental impact of a social cash programme. Studies reflect that by linking poor G2P beneficiaries to a bank account may potentially enable the poor to withstand shocks and build assets for participating in micro-entrepreneurial activities (Pickens, Porteous and Rotman, 2009; Porteous, 2012). As noted earlier, the advantage of possessing a financially inclusive account lies in that payments are stored as an electronic value that improves the likelihood of getting access to other financial services. Whilst the option of additional services may not be available at first, the capability for electronic payments to be made from store-of-value accounts, allows a wider choice of products to be developed and offered to beneficiaries over time. This determines the progression from basic to advanced levels of financial inclusion achieved in households (Bankable Frontier Associates, 2009). Certainly, not all financial services are appropriate for all

beneficiaries, therefore, G2P programme managers may need to consider how to inform beneficiaries so that they may wisely choose and utilise financial services to their optimal advantage.

Hence, the general discourse that follows is that although limited purpose and mainstream accounts are both linked to banks, they vary in the nature of their functionality that has implications for financial inclusion. Whilst G2P studies on financial inclusion were conducted in middle income countries that deployed digital tools, it becomes relevant to investigate the nature of mobile accounts provided to G2P beneficiaries in this study. The next section reviews the theoretical literature on ICTs and m-banking in the context of developing countries.

2.3 Theoretical Review: The Shift in Information Communications Technologies for Development (ICT4D) Approach

My research is positioned in the domain of Information Systems for Developing Countries (ISDC) which looks at Information Communication Technologies (ICTs), as applied in developing countries with the purpose of improving their socio-economic and institutional conditions (Avgerou, 2008). The object of focus is technology, or m-banking, so this underpins the rationale for situating my research in the area of ICTs and mobile technologies for development. As the role of mobile technologies in delivering G2P payments forms the core of my study, this epitomises the implications of technology on the sphere of development. Hence, my theoretical review starts with examining the distinct development approaches that are pervasive within the ICTs for Development (ICT4D) discourse.

The advancement in Information Communication Technologies (ICTs) has triggered a profound effect in the new global information age. The ability to overcome geographic barriers, provide voice to marginalised communities and enable an interconnected, information rich global community has positioned ICT's as a prominent force that is able to influence the creation and evolution of social, political, cultural and economic norms (Brown and Grant, 2010). Whilst various economic, social, information systems (IS) and developmental theorists have recognised the potential of ICTs in developing countries,

there are fundamental ontological differences in understanding the basic nature and process of technology construction and usage that significantly determines its effect on development (Avgerou, 2010). Hence, in my study, m-banking innovation refers to the development and implementation of m-banking and concomitant socio-economic organisational change.

The discourse on development has been widely discussed in the literature, and has witnessed a significant historical evolution. As noted by Walsham and Sahay (2006), the debate does not seem to be fully mirrored in the ISDC strand of literature- a sphere in which the discussion on '*what is meant by development'* is often inadequate and sometimes disconnected from the influences of technology. Hence, the literature on the developmental impact on ICTs remains controversial. In the aftermath of the modernisation theories, the neo-liberal approach linked development with economic growth indicators based on the economic liberalisation of programmes and the structural adjustment of economies pertaining to socio-organisational interventions deeply rooted in social norms (Madon, 2005). Development was translated as an improvement in peoples' economic lives dependent upon certain factors- income generation, increase in productivity, creation of jobs and micro-enterprise development. However, this approach was challenged by development theorists who favoured the *Basic Needs Approach* in bringing social development issues at the core of the debate to satisfy the basic necessities of people (Akpan, 2003). Such programmes entailed the provision of health care, education, environment and human development over other conventional economic approaches towards development (Zheng, 2009; Madon, 2004; Madon, Krishna and Michael, 2010; Qureshi, 2010).

Hence, development has taken a deeper integrative approach, evolving from the traditional theories of modernisation to measuring economic growth and progress towards a human development paradigm, as adopted by the United Nations Development Programme (UNDP) calling for *'the expansion of freedom……both as a primary end and as the principle means of development' (Sen, 1999).* This vision of development was based on Sen's work (1999), the Capabilities Approach in which human agency takes a leading role as people engage in direct action to enhance their capacities and freedoms for choices. Hence, through a polymorphous set of capabilities, based on this approach,

people are capable to fulfil their own life aspirations (Madon, 2004). So ultimately, development entails the opportunities the society, as a whole, gives to individuals to improve their lives, as well as the freedoms and opportunities to see through the life plans. Although, originally, Sen's work did not operationalise the use of technology, or ICTs, as a *means* to achieve these freedoms, other scholars in the IS literature have argued how ICT projects can be harnessed to achieve the fulfilment of human capabilities (Madon, 2004; Zheng and Walsham, 2008; Zheng, 2009; Andrade and Urquhart, 2010; Qureshi, 2011).

Furthermore, ICTs are seen as a crucial enabling factor for future progress within four of Sen's (1999) five developmental indicators- economic opportunities, political freedoms, social facilities, transparency guarantees and knowledge societies, and as a key accelerator for development (Thompson, 2008; Zheng, 2009). The World Bank's Development Report (1998/1999) *Knowledge for Development* advocates the use of ICTs as a means to spread knowledge, and consequently, improve the livelihoods of poor people in developing countries. International development organisations and non-governmental organisations (NGOs) have therefore prioritised the application of ICTs to the Millennium Development Goals (MDGs), and have significantly shifted public and private funding away from traditional developmental programs, such as agriculture, shelter, health and education towards programs that encompass ICT-based propositions-telemedicine, e-learning, e-government, e-agriculture, e-commerce and e-democracy solutions to development problems (Hamel, 2010). Moreover, with the evolving role of new ICTs towards more sophisticated mobile technologies, development practitioners need to reassess the future contribution of ICT for development research (Raiti, 2006; Walsham and Sahay, 2006; Walsham, Robey and Sahay, 2007; Heeks, 2008; Thompson, 2008). This changing role of ICTs sheds light on the transformative role of mobile technologies that has reframed the subject of development, and by doing so, has placed new demands on the stock of human capital, or capabilities, required to function in the emerging global digital markets (Bada and Madon, 2006; Heeks, 2008; 2010a).

2.3.1 Socio-Economic Approach to Development

Invariably, ICTD studies are based upon the premise that ICTs can contribute to socio-economic development in developing countries- all aspiring to the realisation of perceptions of desirable world orders (Walsham and Sahay, 2006; Walsham, Robey and Sahay, 2007; Madon, et al., 2009 Tarafdar, Singh and Anekal, 2013; Heeks, Foster and Nugroho, 2014). This assumption is taken for granted as the developmental potential of ICTs varies among disciplines, in lieu of their unique perspectives within their knowledge domain (Avgerou, 2010). Also, there is evidence that while ICTs do not directly eliminate poverty they support the processes to achieve the MDGs, and hence, are a means to an end rather than an end in themselves (Hamel, 2010).

Hence, economic and social theory converge on the relationship between ICT and socio-economic change to suggest that efforts to spread information and communication technologies are necessary to participate in the emerging global economy, but not adequate to create economic growth (Avgerou, 1998; 2003). Attributing change to technologies, as agents remain influential, new technologies, or mediating devices, are generative in creating new and direct forms of communication, economic activity, information retrieval, and perhaps, even new forms of international development (Tapscott and Williams, 2006; Heeks, 2008; 2009; 2010b; Thompson, 2008). Therefore, the diffusion of ICT related activities is linked to structural changes in the world economy and interventions in organisations that puts pressure on policy makers and governments to re-design their emerging socio-economic structures and organisational innovations related to ICT innovation (Avgerou, 1998; 2000; Madon, Krishna and Michael, 2010).

In the ISDC literature, Avgerou (2008) identified three discourses that combined the nature of ICT innovation processes with relevant conceptual constructs of these processes. First, at the institutional level, ICT innovation in developing countries is perceived as a process of *ICT transfer and diffusion* of organisational practices from advanced economies to developing nations (Sahay and Avgerou, 2002; Avgerou, 2008). Combining and adapting technology within local structures leads to *progressive*

transformation (Avgerou, 2010) that is rooted in the assumption that ICT innovation in developing countries is mainly concerned with catching up with the technological advanced rich economies to achieve prosperity, improvements in health, education and political participation in the same way as developed countries by emulating their institutions (Okpaku, 2006; Avgerou, 2008; 2010). It clarifies that ICTs are not directly associated with economic growth, but impacts on structures for socio-economic development (Walsham and Sahay 2006; Walsham, Robey and Sahay, 2007). In convergence with this approach, some international development agencies, including the World Bank, the United Nations Development Program (UNDP), World Economic Forum (WEF) and International Monetary Fund (IMF) have aggressively pushed the notion of ICTs to the forefront of their developmental agendas. In doing so, they have linked ICT with economic prosperity and poverty reduction in developing countries (United Nations Human Development Report, 2001; Hamel, 2010).

However, other scholars have subscribed to a more critical stance against the 'fad of ICTs for development' and are rather sceptical of the motivations behind the thrust towards digitalization in developing countries (Wade, 2002). ICT transfer and diffusion is perceived to be technological deterministic that fails to fit within the local context, and hence, results in *disruptive transformation* (Avgerou, 2010). Wade (2002), for instance, argues that foreign countries exploit their monopolistic powers to reinforce their intellectual dominance and authority in the developmental field. Similarly, other scholars also resonate that the techno-functionalist thinking of developed nations conceal a powerful intellectual imperialism (Avgerou, Ciborra and Land, 2004; Wade 2004; Ciborra, 2005). Hence, scholars have expressed concerns over the difficulties that are faced in following the trends and standards of ICT-enabled globalisation and in practicing ICT innovation effectively in developing economies (Wade, 2002; Avgerou, 1998; 2010).

The second discourse presented by Avgerou (2008) examined the significance of the indigenous context and social shaping of new ICT's in developing countries (Avgerou and Walsham, 2000; Avgerou, 2001; 2008). This perspective draws on the ontological premise that ICT artefacts are *socially-embedded*, so hence, local innovation steers new socio-technical arrangements in developing countries for the *progressive transformation* of communities (Avgerou, 2002; 2008; 2010; Braa, et al., 2007). This assumption

perceives how the innovation of indigenous ICT projects in rural communities reduces the digital divide by identifying local needs and exploring local meanings in enacting new techno-organisational structures for socio-economic development (Walsham and Sahay, 1999; Madon, 2005; Madon, et al., 2009). Despite the promising outcomes, this approach to development may sometimes also result in the *disruptive transformation* of communities arising from political discourses within social actors (Avgerou, 2010). This is because the inclusion of digital projects owing to their political nature may sometimes create inequalities that may emerge within cultures and societies, so perhaps require greater government support in focussing on the local context in developing countries (Madon, et al., 2009; Madon, Krishna and Michael, 2010).

However, the third discourse engages ICT innovation with creating possibilities for improvement of life conditions within a specific locality amidst the global economic order. It is particularly interested in the processes through which ICT innovation is significant for socio-organisational change in large scale projects (Avgerou, 2008). Of relevance to my study, Avgerou (2008; 2010) provides a relevant framework to study m-banking innovation. The *social-embeddedness* discourse is the most prevalent in the ISDC literature and shifts attention to the profound effects of ICT innovation within social institutions. Hence, this notion of *social-embeddedness* is entrenched in my theoretical framework (illustrated in Chapter 3) to understand the social construction of technology for affecting the social, political and economic structures in developing countries. Further, whilst *ICT transfer and diffusion* may represent the macro-level, *socially-embedded ICTs*, focus on the local level, so both perspectives may raise problems of scalability in ICT projects (Walsham and Sahay, 2006). Hence, it is important to strike a middle ground between the universalistic and situated theories in ICT4D studies (Avgerou, Ciborra and Land, 2004).

2.3.2 Capabilities Approach to Development

Expanding from the narrow focus of income and consumption, Sen's Capabilities Approach (1999) presents the vision, *Development for Freedoms*- that is- focal to the development discourse within the ICT4D literature. This shift in the developmental paradigm draws attention to individual, external and group capabilities of freedoms to

tackle development challenges- ranging from poverty, sustainable development, gender equality, human rights and democracy (Bada and Madon, 2006; Zheng, 2009). Inspired by Sen's Capabilities Approach (1999), the United Nations Human Development Report (2001), '*Making New Technologies Work for Human Development'* prioritised ICTs as a developmental tool for enabling political participation, achieving greater transparency and new sources of income and improved health (Andrade and Urquhart, 2010; Spence and Smith, 2010). It stresses on the importance of human agency, defined in simpler terms, as the capacity to make choices for enhancing individual's freedoms, capabilities, opportunities and equities (Sen, 1999; Zheng, 2009). So development, as Sen argues, may be seen as a way of conceptualising the broader quality of life that people choose to live. Well-being is measured within political, cultural, social and ethical spheres and in economic and social dimensions to include opportunity, security, dignity and empowerment of individuals and communities (Madon, 2004; Zheng, 2009; Spence and Smith, 2010). This argument was reinforced by the Global Information Society international initiatives that aimed to mobilise financial resources and voluntary sector action for overcoming the digital divide problem[8] (United Nations Human Development Report, 2001).

Thompson and Walsham (2010) contend that the conception, development, implementation and use of ICTs, functions as an explicit vehicle, for furthering developmental aims. By this, ICTs is not perceived as an end to the developmental efforts, but more for enabling a set of social behaviours. Hence, ICTs may provide people with the means and choices through which they can take actions and make decisions that lead them towards better livelihoods. So the process of expanding the real freedoms and the opportunities for improving their economic and social well-being constitutes development (Madon, 2004; Qureshi, 2011).

Thus, the capabilities approach puts human development issues at the centre of the discourse whilst designing digital innovation programs to enhance individual capacities, as opposed to heavy investments in ICT infrastructure that forsake the importance of technology for socio-economic change (Casal, 2007; Madon, et al., 2009; Andrade and

[8] Sites of the World Summit for the Information Society (WSIS) initiative of the United Nations and International Telecommunications Union.

Urquhart, 2010; Mascarenhas, 2010). Further, emphasis on the importance of local ownership, participation and empowerment of the community in stimulating a demand for the successful uptake of ICT services lies at the core of the development agenda (Madon, 2005). Hence, ICTs have the potential to enhance human capabilities when applied with clear objectives, so that proper policies are devised within an institutional framework for promoting the use and benefits of ICTs for the development of individuals and communities in developing countries (Madon, 2004; Hamel, 2010).

Within the capabilities paradigm of development, the literature on mobile technologies reflects this vision and reconceptualises the subject of development for practitioners and policy makers in developing countries (Carmody, 2012; Komunte, Rwashana and Nabukenya, 2012). Whilst the exponential growth of mobile technologies has sparked off an information revolution in bridging the rural digital divide in poor communities (Wade, 2004; Frempong, 2009; Katsina and Abdulkareem, 2012), mobile phones are perceived as a mediating tool in connecting the poor to information networks for reducing information poverty (Komunte, Rwashana and Nabukenya, 2012). Studies portrayed that the benefits of mobile phones were proportionately greater in resource constrained settings for the poor, as extreme poverty resulted from the digital isolation of rural communities (Rangaswamy and Nair, 2010; Smith, Spence and Rashid, 2011).

Whilst mobile technologies have penetrated the lower income strata of rural populations, through the Capability lens, we have seen how mobile phones enabled the poor to expand their agency freedoms to achieve pro-poor growth (Heeks, 2009; Smith, Spence and Rashid, 2011). Other studies validated that mobile phones did not directly alleviate poverty, but were instrumental in supporting the market activities of the poor (Prahalad, 2004; 2010) through enhanced social and business communication channels to access market information, reduce transaction costs and create new markets for micro-entrepreneurs to increase incomes (Jenson, 2007; Aker, 2008; Donner and Escobari, 2010; Aker and Mbiti, 2010; Ilahiane and Sherry, 2012). According to Qureshi, Kamal and Keen (2009), mobile technologies underpinned ‘knowledge networking’- enabling people in geographically dispersed communities to access and share knowledge, information and skills. In the same vein, Carmody (2009; 2013) argued that mobile technologies helped build knowledge societies for *thintegration* into global economies.

Hence, the polymeric nature of the field of ICTs, especially mobile technologies, typically subscribes to a view of technological innovation, as an embedded system that enacts structures for the socio-economic transformation of impoverished communities. These concepts are reflected in my theoretical framework as they lie at the root of the contribution that the thesis makes to the field of ICTs for Development.

2.4 Theoretical Perspectives on Mobile Banking

The theoretical literature on mobile banking is multiple disciplinary in nature- drawing mainly on perspectives and theories from information systems, computer and behavioural science, development studies and economics disciplines. Yet, notwithstanding the importance of heterogeneous perspectives on m-banking, the theories have offered a unique lens to study mobile payments. Hence, the theoretical constructs that underpin the perspectives may also be conceptualised for analysing G2P payments in my study.

The main theoretical perspectives/ theories on m-banking as presented in the literature are summarised in Table 2.2 on the next page.

Perspectives	Theories/ Approaches	Studies (selected)
Information Systems	Technological-Deterministic Approach	Ndiwalana and Popov (2008), Jenkins (2008), Mas and Morawczynski (2009), Camner and Sjoblom (2009), Mas and Ng'weno (2010)
	Socio-Technical Approach	Porteous (2006; 2007), Hughes and Lonie (2007), Morawczynski (2009; 2011), Lyman, Pickens and Porteous (2008), (Omwansa, 2009)
	Actor Network Theory	Hayes and Westrup (2012), Anong and Kunovskaya (2013)
	Adaptive Structuration Theory	Donner (2007), Donner and Tellez (2008), Morawczynski and Miscione (2008), Morawczynski (2008; 2009; 2011)
Computer Science and Behavioural Perspective	Technology Acceptance Model	Tobbin (2012), Mbogo (2010), Ngugi, Pelowski and Ogembo (2010), Medhi, Ratan and Toyama, (2009), Hinman and Matovu (2010)
	Diffusion of Innovations Theory	Alampay and Bala (2010), Sivapragasm, Aguero and de Silva (2011)
Developmental Perspective	Modernisation Theory	Morawczynski (2011)
Economic Perspective	Economic Theory	Morawczynski and Pickens (2009), Mas (2009), Jack, Suri and Townsend (2010), Plyler, Haas and Nagarajan (2010), Karrer-Rueedi and Trueb (2011), Jack and Suri (2011), King (2012)

Table 2.2: Perspectives and Theories/ Approaches on Mobile Banking

2.4.1 Information Systems Perspective

The IS perspective in the m-banking literature is prominent in analysing how technologies are constructed within social systems, or enacted as socio-technical networks for their effects on individual groups and organisations.

Technological-Deterministic Approach

I have borrowed concepts from the ISDC literature and have applied them to conceptualise m-banking innovation in developing nations. Precisely, m-banking innovation has been categorised as *technological-deterministic*- that is- mainly universalistic with narrowly situated perspectives on innovation (Avgerou and Madon, 2004). This implies that technological innovation is guided by planned methodical actions that steer organisational performance with emphasis on the design and role of technology solutions within business models. Hence, techno-economic reasoning and logic over-rides the rationality that technological innovations need to fit within social constructs (Avgerou, 2001; 2008; 2010). The discourse, being universalistic, separates technological innovation from its immediate context, so often acknowledges contextual contingencies (Avgerou and Madon, 2004). As there is a clash between the techno-economic rationality for development and the local system of reasoning, failure to cultivate behaviours in support of technological innovation, provides little hope for sustained development in local communities (Ciborra, 2005; Avgerou and McGrath, 2007; Kyem, 2012).

Avgerou's study (2008) underpins this approach as m-banking innovation may be seen as a process of ICT *transfer and diffusion*- from developed to developing countries with suspicion that the available ICT artefacts and business models may not meet the developing country's needs (Sahay and Avgerou, 2002; Thompson, 2008; Avgerou, 2010). In this context, agendas dictated by international policy makers and donor organisations may interfere with the local developmental agenda (Thompson, 2008) and may cause *disruptive transformation.* Since, technologies are designed and developed elsewhere, developing countries may become vulnerable to the increasing complexities arising from the inclusion of digital projects (Avgerou, 2010).

Drawing on this perspective, studies proposed techno-centric universal solutions in assuming that the use of appropriate standards and protocols may rationalise the interplay between local and global domains (Sahay and Avgerou, 2002; Avgerou and Madon, 2004). This perspective was largely dominant at the institutional level in the literature that conferred a policy-driven rationale for institutionalising m-banking for practitioners, governments, donor organisations and regulatory institutions. Critics, therefore, argued that the current emphasis on m-banking to deliver financial services, inherently

dismissed the socio-cultural context of technology in which it was created and used (Donner and Tellez, 2008; Duncombe and Boateng, 2009).

Within this discourse, Ndiwalana and Popov (2008) divulged that the success of the m-banking models, G-Cash and SmartMoney in Philippines, may be replicated in Uganda, as the technological design and features in the system overruled the contextual contingencies. Although the authors drew on a similarity of factors between the two contexts, they overlooked the differences in the nature of economic, political and institutional relationships between stakeholders that impeded the success of mobile payments in Uganda. In addition, Camner and Sjoblom (2009) critically compared the adoption rates of M-PESA in Tanzania and Kenya, and highlighted the contextual differences prevalent in the economic and regulatory frameworks that retarded the growth of M-PESA in Tanzania.

In addition, the technological deterministic approach examined the perceptions of m-banking providers (mobile operators, banks and MFIs) and intermediaries (retailers/banking agents) at an organisational level within the m-banking ecosystem (Jenkins, 2008; Mas and Morawczynski, 2009; Mas and Ng'weno, 2010). The focus on product design, innovation and processes may not logically fit with user's needs. Hence, whilst scholars analysed M-PESA's success in Kenya, there was criticism that the model failed to link to a fuller range of banking services that denied customers access to a broader product range- institutional payments, welfare distributions, tax collections and a more segmented tariff and sub-agent model for smaller transaction sizes (Mas and Ng'weno, 2010).

Socio-Technical Approach

The socio-technical approach draws on contextual studies (Pettigrew, 1985), in favour of the user-driven approaches for technological innovation (Mumford and Weir, 1979; Mumford, 2000; Avgerou and Madon, 2004). While Pettigrew's contextual approach continues to be followed in ISDC studies, other theoretical approaches, including social constructionist and situated approaches have been introduced to study ICT innovation in developing countries contexts (Avgerou, 2001). Applying the concepts from Avgerou's study (2008) on ICT innovation in my research framework (discussed in Chapter 3), it is

highlighted how the ontological nature of technology innovation may affect the developmental outcome in organisational structures.

Within this perspective, ICT innovation is perceived as a situated, or *socially-embedded* process enacted by social actors who make meaning of their immediate context (Avgerou, 2002). Hence, m-banking innovation arises from the social, organisational, cultural and political contexts that shape its form and design (Avgerou, 2008; 2010). Technology innovation is viewed as a *socially constructed* course of action by local actors for organisational change. While its purpose arises from local problems, it's course is determined by the way local actors make sense of it, and incorporate the context of its use in the design that leads to *progressive transformation* (Avgerou, 2002; 2010; Sahay and Avgerou, 2002). Hence, ICT innovation focusses on users' needs that advocates a bottom-up design approach for constructing digital projects for inclusion in communities (Cecchini and Scott, 2003; Walsham and Sahay, 2006; Casal, 2007). Although technological adaptations evolve gradually to fit with organisational needs, they are most successful when they are integrated within local structures and indigenous channels (Avgerou, 2000; 2010; Casal, 2007; Madon, et al., 2009).

Studies on m-banking, within this perspective, highlighted the importance of the regulatory, economic and legal framework, as an enabling environment, for greater certainty and flexibility in business models (Porteous, 2006; 2007; Lyman, Pickens and Porteous, 2008). It was observed that M-PESA was re-designed after the pilot study in order to match the social and organisational contexts of its users. Although the original designed evolved from loan repayments (involving the microfinance institution- Faulu Kenya and a commercial bank) to a money transfer system (Hughes and Lonie, 2007; Omwansa, 2009), what was paramount was that the local context significantly shaped social structures for technological innovation (Morawczynski, 2009; 2011). However, some authors criticised that socio-technical perspectives on technological innovation are inherently laden with power dynamics that disregard the cultural, political and ethical problems of individuals (Avgerou and McGrath, 2007).

Actor Network Theory

Actor Network Theory (ANT) has been widely applied in information systems research and is coined on the notion of actor networks, centred on technology, for conceptualising the ways in which network dynamics are conditioned by the influence of technology on them (Latour; 1991; 2005; Callon, 1991; Law, 2009). Although the theory is influential in IS studies, I have not used it in this study as it does not account for 'why' and 'how' networks may fall apart through their interactions. Also, the analysis at different levels between several macro-micro networks, and their interactions to unfold the emerging context for G2P payments, may become difficult to analyse in this study. More generally, whilst actor-network theory attempts to translate common objectives between various actors in socio-technical networks, this may be problematic if contradictory ideologies emerge between socio-technical actors in the absence of a unified goal for implementing digital payments.

In the current literature, the use of ANT by scholars analysed the heterogeneous m-banking networks, established by technology (content) in aligning with society (context) (Hayes and Westrup, 2012; Anong and Kunovskaya, 2013). The formation of socio-technical networks translated into single unified actions to achieve common goals within social and organisational processes. Within this framework, Hayes and Westrup (2012) investigated the nature of relationship between M-PESA and its social context within a multi-level framework. Whilst examining the strong alignment between private organisations (Safaricom) and public sector organisations (Central Bank of Kenya), the authors identified the relational linkages and processes in which m-banking providers, users and regulatory bodies, engaged to draw on both proximal and distal accounts. The study established that the dynamic relationships between various socio-technical actors unfolded the context that constantly evolved through unforeseen and unanticipated ways (Hayes and Westrup, 2012). However, this approach neglected the issue of scaling up of ICT4D projects from specific successes to national or international outcomes. Similarly, Anong and Kunovskaya (2013), through the lens of ANT, analysed key socio-technical networks within the context of transformational mobile finance in South Africa. They argued the value of socio-technical networks in fostering customer relationships with macro-actors in the legal and self-regulatory environment was essential to promote the

usage of mobile finance. However, the complicated interplay between technology and society not only requires synchronisation, but in understanding the delicate intricacies found in power networks as they emerge.

Adaptive Structuration Theory

Some studies on mobile banking provided a structuration perspective through the application of Adaptive Structuration Theory (Poole and DeSanctis, 1989; 1990; DeSanctis and Poole, 1994; Walsham, 2002) that addressed the mutual influence of m-banking and social processes in local communities. Adaptive Structuration Theory (AST) suggests that '*the social structures provided by an advanced information technology can be described in two ways: structural features of the technology and the spirit of this feature set (DeSanctis and Poole, 1994, p. 126).* However, AST has been dismissed as a framework in this study because it looks at the dialectical relation between technology and its use in group support systems that is not applicable to this study. Also, AST proposes an agenda for research that is heavily oriented towards deterministic functional research (Jones and Karsten, 2008) that clashes with the interpretive philosophical stance in my social inquiry.

Within the framework of AST, Donner and Tellez's (2008) exploratory study from India postulated that the bi-directionality of influence between mobile technologies and social structures created and reshaped social structures (Orlikowski and Iacono, 2001). To this effect, each interaction reinforced and was influenced by the structural position of people in broader informational networks (Castells, 2007; 2012). Hence, m-banking amplified social structures rather than transforming them. These results, however, contradicted the common belief that innovations are situated, so may emerge from unexpected places through the reconfiguration of technology by users (Donner, 2007; Donner and Tellez, 2008).

By contrast, studies from Kenya reflected that m-banking innovation was not merely additive in household structures, but also transformative through changed financial practices, thereby, increasing household incomes by 5-30 percent (Morawczynski, 2009; 2011). Additionally, m-banking allowed users to spread risk by relaxing the trade-off between risks and returns that led to more effective investment decisions (Jack and Suri,

2011). Furthermore, adaptive structuration theory was used to examine how m-banking in Kenya affected households after new practices were internalised into daily household practices (Morawczynski, 2011). Hence, technology was transformed from non-routine and non-specialized activities, or from unfamiliar and possibly threatening things, into something familiar (Oudshoorn and Pinch, 2008). Morawczynski (2011) further analysed the role of myriad factors- from tribal affiliations to structures of urban-rural dependencies- in shaping the domestication of m-banking practices in Kenyan households. As new patterns of technology emerged, m-banking providing greater ease and convenience for the migrant sender, and increased financial security for the rural user (Morawczynski, 2011). Moreover, social arrangements changed as technology created new social relationships and power structures. Hence, mobile transfers were perceived as a maintenance tool for sustaining urban-rural relations, especially for the survival of urban migrants in the 'dual system' in Kenya (Morawczynski, 2008; Morawczynski and Miscione, 2008).

2.4.2 Computer and Behavioural Science Perspective

The computer and behavioural science perspective on m-banking accounts for the adoption, usage and diffusion of m-banking- with focus on the individual user level. This epistemological lens has not been applied, as it is typically informed by positivist research, drawing on certain social and behavioural parameters that clash with the interpretive orientation of the research inquiry in my study.

Technology Acceptance Model

The Technology Acceptance Model (Davis and Taylor, 1986; Davis, 1989; Davis, Bagozzi and Warshaw, 1989) highlights the adoption factors for m-banking users, drawing on the theoretical concepts from social psychology, computer studies and behavioural science, to explain and predict user's behaviour during the implementation of new technologies. However, I argue that the Technology Acceptance Model (TAM) is not relevant in this research, as it is biased towards the adoption factors whilst ignoring the challenges encountered by users.

Whilst Mbogo (2010) analysed how urban business users adopted and used m-banking in Kenya, Tobbin's (2012) research from Ghana, explained how TAM constructs and other antecedents influenced rural business users' intentions to adopt m-banking. Although both models reflected on key behaviour patterns and the determinants of the acceptance of technology against a range of other factors (perceived usefulness and perceived ease of use), the effects of external factors to influence internal beliefs, attitudes and intentions were diluted in the research. However, there was criticism that TAM was applied functionally in a rather ad-hoc manner that overlooked the economic factors, and emphasised the mobile payment model at the cost of systems security (Tobbin, 2012).

However, another study from Kenya extended the TAM, as the Unified Theory of Acceptance and Use of Technology (UTACT) through integrating other theoretical constructs and social parameters in the traditional model (Ngugi, Pelowski and Ogembo, 2010). It was found that m-banking adoption and usage was dependent upon performance expectance, effort expectancy, social influence and facilitating conditions for users (Venkatesh and Davis, 2000). However, the framework helped researchers identify how leaders, or the early adopters crossed the 'chasm' of technological innovation through their early awareness of technology that helped them overcome the technological barriers associated with m-banking usage (Ngugi, Pelowski and Ogembo, 2010).

Further, research from India, Kenya, Uganda, South Africa and Philippines highlighted innumerable extrinsic factors- demand, pricing, reliability, agent's proximity and transaction time that facilitated m-banking adoption. Alternatively, few studies drew our attention to the intrinsic variables that hindered the uptake of m-banking services in developing nations (Medhi, Ratan and Toyama, 2009; Hinman and Matovu, 2010; Sivapragasam, Aguero and de Silva, 2011).

Diffusion of Innovations Theory

The Diffusion of Innovations Theory applies a popular theoretical lens to study m-banking adoption and diffusion in developing countries. Researchers hypothesise Rogers (2004) theory in terms of underlining awareness- as a critical stage towards the trial, adoption and use of technological innovations. It highlights that awareness, or

knowledge, is the first in a series of steps in adopting m-banking practices. However, the theory is confined to the adoption factors, so hence there is danger that it would limit the analysis in failing to identify the constraining factors for m-banking uptake.

Under this framework, empirical studies from Bangladesh, India, Pakistan, Sri Lanka and Thailand explored the extent to which international migrant workers, at the bottom of the pyramid (BoP) were aware of, and subsequently, used m-banking for remitting money to family members in their respective countries (Sivapragasm, Aguero and de Silva, 2011). Although the study profiled the early adopters to understand the significant factors that influenced usage behaviours for making mobile remittances, the research failed to account for the time factor that was a critical component in determining the uptake of m-banking within the diffusion cycle (Sivapragasm, Aguero and de Silva, 2011).

Other studies suggested that technological innovation caused psychological fear amongst users owing to the loss of control associated with new financial practices. Alampay and Bala (2010), through their research in Philippines, extended the discourse within Van Dijik's (2006), '*Stages of Access to Digital Technologies'*. They argued that enhancing digital literacy was essential to overcome technological fear for increasing the usage of mobile money for Filipinos. Although intrinsic factors motivated the adoption of m-money, other external factors also accounted for the non-uniformity of the adoption process across countries with similar socio-economic contexts.

Although diffusion studies are pervasive in IS research, the ideological and moral orientation of diffusion research is geared towards the assumption that the adoption of an innovation is desirable, while the failure to adopt is pejoratively portrayed as resistance. Many studies therefore seek to identify factors that facilitate or inhibit adoption, usually with a view to controlling these as far as it is believed such control is possible. Despite the ubiquitous influence of diffusion theory, McMaster and Walsall (2005) have critiqued on some of its core ideas. The philosophical orientation is viewed to be deterministic and positivist, to an extent that its proponents are often tempted to imagine that they may predict its outcomes, based on the measurement of a small number of tightly defined variables. Hence, diffusion research, be it on the adoption of new technologies, or on the outcome of IS development projects, tend to follow such a 'factor approach', wherein key features of technology, context or process are correlated with the

outcome measures. Whilst such factor models may highlight important influences, they necessarily fail to capture the dynamic, processual character of socio-technical innovation (Robey and Boudreau, 1999). Causation in the social realm is complex, situated and ideographic.

Moreover, diffusion theory displays a pro-innovation bias with the assumption that innovations should or ought to diffuse. When diffusion fails to occur, there is a propensity to blame individuals rather than the innovation itself. Portraying non-diffusion as resistance, creates an ideological basis that narrows the focus of enquiry and erects a self-serving moral dichotomy that creates a rhetorical advantage in favour of the innovation that acts to stifle critique. Nonetheless, more generally, there is a rich historical tradition related to the uses and meanings of diffusion theory, as a term, that is entirely overlooked and arguable to the detriment and poverty of IS diffusion studies today (McMaster and Wastell, 2005).

Further, as highlighted by McMaster and Wastell (2005), the theoretical naivety of diffusion has also been critiqued, especially from those scholars who have adopted a social constructionist orientation towards technological innovation. As social constructionism lies at the core of the Duality of Technology model, this theory has little relevance in this study since scholars argue that the diffusion theory takes facts and artefacts to be immutable objects waiting either to be uncovered or invented by superhuman discovers or inventors. So once exposed, these then spread throughout society powered by their own inherent 'factuality' in the form of ideas, practices and artefacts. Nonetheless, on the one hand there are courageous innovators, and at the other pole there are laggards for which the theory offers lack of explanation. Hence, speculation about the mechanisms driving the apparent dispersal of immutable facts and artefacts through passive recipients is what constitutes diffusion of innovations theory. Whilst the innovator dichotomy, invariably presented as natural, moral and inevitable remains benign, and taking into account the limitation of the model that is purely seen to be deterministic, the application of theory in this study remains constrained as the political agenda within the status quo remains neither problematized nor questioned.

2.4.3 Development Perspective

As the m-banking literature is framed in developing countries, the developmental perspective sheds light on how technological practices have implications on the discourse on development in countries.

Modernisation Theory

Modernisation theory explains how the construction of western concepts into local traditional institutional frameworks advances economic progress for developing nations. Whilst presenting the dichotomies around the tradition *versus* modernity debate, tradition identifies rigid social hierarchies, simple technologies and agrarian means of production, whereas, modernity reflects upon high consumption, widespread wealth and sophisticated devices. Some concepts, if relevant, may be applied from this theory to my research, especially whilst looking at m-banking construction.

Through the lens of modernisation theory, Morawczynski (2011) provided an alternative discourse on the homogenous, or uniform effects of m-banking on traditional structures for innovative change in Kenyan households. The study challenged that households required considerable reconfiguration in order for new technologies to grow, therefore, m-banking had little impact on the socio-economic transformation of households. Whilst the study offered an explanation on how new technologies co-existed with old practices, it dismissed the conventional discourse that modernisation was synonymous to transformation. So although theorists debate that technological growth can be replicated, technology apparently follows its own trajectory of growth, so development is perceived as a contingent process (Morawczynski, 2011).

2.4.4 Economic Perspective

An economic perspective on m-banking differentiates between the providers' and users' perspectives at the macro and micro-levels. At the organisational level, studies analysed

the financial interactions between mobile operators and banks, or agents that were subjected to monetary and regulatory protocols. Jack, Suri and Townsend's (2010) study on m-banking in Kenya, used monetary models to measure the spatial separation between actors leading to liquidity issues that impeded the efficient and immediate reallocation of mobile money and e-money balances across agent channels. Mas (2009) compared branchless banking models from Asia, Africa and South America and displayed how various actors, within the m-banking ecosystem, achieved economies of scale through a process of specialisation and scale that included agents, microfinance institutes, mobile operators, banks and customers. Similarly, King (2012) provided empirical evidence from Kenya, through the econometric modelling of M-PESA, manifesting that m-banking reduced the distance to bank infra-structure that increased financial access for users. Other scholars argued that m-banking service providers maximised their profits through reducing their transaction or delivery channel costs (Mathison, 2005). However, mainly, economic approaches have been criticised for failing to integrate m-banking into the social dimensions for enhancing users' experiences of m-banking.

At the local level, studies from Kenya showed how m-banking led to economic development in communities. In this context, authors argued that m-banking increased capital and augmented local economic expansion and growth within communities owing to better employment opportunities (Morawczynski and Pickens, 2009; Plyler, Haas and Nagarajan, 2010; Jack and Suri, 2011). Other scholars highlighted that the economic effects of technologies were subject to the social effects that were neither distinct, uniform nor homogeneous across all communities, but rather influenced by gender and the geographic location of communities. Nevertheless, studies presented that the economic and social effects may not always be mutually exclusive, but rather interwoven to fabricate the overall effects on local community development (Plyler, Haas and Nagarajan, 2010). Hence, it may be note-worthy to find some correlation on the effects of m-banking on households for financial inclusion in structures as examined in this study.

2.5 Shortcomings and Gaps in the Mobile Banking Literature

The various theoretical perspectives on m-banking offered myriad insights on innovation, usage and effects of technology on organisations and local communities. A critical review of the literature highlights the gaps in order to select the most appropriate theory that underlines the concepts to articulate the research questions for the study. I will identify some key shortcomings and gaps that prescribes the theoretical framework (Chapter 3) and methodology (Chapter 4) in this research.

2.5.1 Theoretical Shortcomings and Gaps

Even though the ***technological deterministic*** approach on m-banking innovation presented an optimistic view in implementing the 'best practice' for *progressive transformation*, other authors challenged this belief. In the context of developing countries, scholars argued that ICT *transfer and diffusion* may cause *disruptive transformation* as imported ICT models from developed countries, including m-banking, may clash with local developmental agendas (Avgerou, 2010). As explained earlier, this perspective situates m-banking exterior to the institutional context, so this ontological notion is dismissed in my study. Moreover, scholars argued that the technical and rational models of ICT, or m-banking innovation, may be discretely power laden that provides opportunities to foreign policy-makers, governments, public and private organisations to exercise their monopolistic dominance over developing countries (Wade, 2002; 2004; Thompson, 2008). Furthermore, this deterministic perspective resonates with modernisation theory that conceptualises m-banking innovation for economic growth in communities.

By contrast, the ***socio-technical*** approach on m-banking innovation reinforces the argument that m-banking is *situated* and *socially-embedded* in the local socio-organisational context in favour of local indigenous projects. However, in the context of my study, m-banking innovation is examined and how technology design affects the developmental effects on households. As I recognise that m-banking is a *socially constructed* process that involves discourse and negotiations between various social

actors, it endorses the *social-embeddedness* nature of technology that is conceived in the theoretical framework of the study.

Modernisation Theory was used to present the developmental perspective on m-banking, it painted a rosy picture of its cause and effect, but neglected the more complex processes related to technological growth in developing economies. Although the socio-technical perspective ratified that the technology *transfer and diffusion* process cannot be black-boxed and applied from the *west* to the *rest*, modernisation theorists argued that m-banking outcomes for change were contingent on events and practices, so hence, were not replicable in other countries (Morawczynski, 2011). Perhaps, these outcomes may prove fruitful for development practitioners, who precisely, set their expectations on particular types of impacts related to technological interventions in communities. However, I argue that the theory failed to account for the side-effects, or contingencies, arising from the context itself within which local ICT innovation occurs in developing countries. This argument may be relevant in this study as well, in viewing m-banking innovation as an indigenous process amidst the interplay between diverse external and internal contextual factors that may interfere with local developmental objectives.

Drawing upon the IS literature, the ***Technology Acceptance Model (TAM)*** was applied to explore the critical factors that affected m-banking adoption for users. As authors have rightly criticised, the model was rather universally applied in an ad-hoc manner in previous studies (Duncombe and Boateng, 2009). Moreover, it failed to relate m-banking construction with adoption and usage and neglected user's role in the shaping of technology. Hence, by rejecting the common belief that technology may be appropriated by users, through continued usage and interaction, TAM discounted the notion of *social-embeddedness* that arguably has different expectations and implications for technology designers and users. More importantly, the model overlooked how certain constraints related to m-banking adoption affected usage within diverse social and organisational contexts in developing countries.

Although the ***Diffusion of Innovation Theory***, accentuated the importance of creating awareness as a critical first step to drive the adoption and usage of m-banking, the theory did not account for time, as an independent critical variable within the life cycle of the diffusion process. Critics, therefore, evoked that the approach had a pro-innovation bias with the assumption that all innovations are good, and hence, uniformly adopted by users

(Cruz, et al., 2010). Hence, by drawing a causal link between the social parameters and behavioural intentions of individual users, the theory mainly drew upon positivism. It further discounted users' social interactions with technology for improvising new financial practices. Moreover, Diffusion of Innovations Theory failed to establish how the diffusion of m-banking practices affected the institutional properties of social structures. This is a key area to investigate in my study as m-banking may affect the institutional dynamics of households for socio-economic change.

Although both TAM and Diffusion of Innovations Theory are pervasive within IS research and practice, generically, scholars have argued that they are reduced to a technological rationality- an encounter between a disembodied subject facing an objective technical artefact wherein a simple binary choice is to be made. This is what may be called as the standard model of innovation in the field (McMaster and Wastell, 2005). So whilst the theory of diffusion, as highlighted earlier, denotes an asymmetrical view of innovation, as originating exclusively in 'progressive' centres from where it spreads through an essentially passive community. Thus, authors debate that the model is pernicious as it privileges an elite few over the majority, with the innovator/imitator dichotomy presented as natural, moral and inevitable. Whilst conforming to these views, the model is rejected as its application will fail to examine the cultural beliefs, attitudes, capabilities and behavioural intentions that may constrain user's m-banking practices. Also, it fails to identify the late laggards, or users who resist or are slow to adopt and use new technologies over their habitual patterns, limiting it application in the study. Moreover, diffusion of innovations theory fails to analyse how contextual conditions and social actors, particularly G2P programme managers, as innovators, exercise their influence to determine the construction of technology which affects their course of actions in this study. Hence, I argue for a more critical approach within IS research on m-banking innovation using richer, process-based theories.

Furthermore, I highlighted how ***Actor Network Theory***, as applied in the literature, combined the macro-micro perspectives to study socio-technical networks. However, it failed to weave together the distal and proximal accounts in the respective contexts, especially, how the distal accounts were interpreted by macro actors in relevance to narratives of other socio-technical actors (Hayes and Westrup, 2012). Further, whilst actor network theory was instrumental in examining various alliances between socio-

technical actors and their translations, it inadequately explained 'why' and 'how' the translations thrived in networks governing social and community structures. Moreover, it failed to account for how networks might fall apart which might pose limitations in this study.

Adaptive Structuration Theory (AST) was used to interweave the relationship between social groups, m-banking and institutions, but the dialectical interaction between technology and informational networks made the theory inapt for this study. Although the social shaping of technology aligned with the constructivist stream of research on m-banking innovation, the design of m-banking and its effects within the unique institutional and social context of users afforded a positivist view of structuration in earlier studies. Hence, I argue that AST failed to link the ontological nature of m-banking innovation with Avgerou's framework (2010) for identifying *progressive* or *disruptive* transformation within communities in the ICT4D literature.

I argue that while ***Orlikowski's Duality of Technology*** *(1992)* is well established as a research framework in understanding the social construction and *duality of technology* (Pinsonneault and Kraemer 2002; Rahul De' and Ratan, 2009), I noted an absence of DoT in the m-banking literature in general, and G2P literature in particular. The theory is relevant to this research as it appropriately links m-banking innovation with the structural outcomes to assess the developmental effects on households for financial inclusion. This justifies the framework, as a useful contribution in examining the influence of the external and internal forces in the social construction of m-banking. In doing so, it conceptualises m-banking as being *socially-embedded* that is inscribed within the socio-technical perspective on m-banking innovation. The Duality of Technology also addresses the shortcomings of the pro-adoption IS models by examining both the enabling/constraining effects of technology on individual social actors. Also, the significance of m-banking innovation on the institutional properties of households may pertain to socio-economic change that is translated as financial inclusion in the study. Hence, through a socio-technical lens, my study aims to contribute towards a new theoretical understanding in analysing the complex relationship between technology, social actors and institutions in the context of G2P payments in Pakistan. The research framework built on DoT will be described in greater detail in Chapter 3.

2.5.2 Conceptual Shortcomings and Gaps

I found that the majority of literature on m-banking was framed around studies that captured the perspectives of policy institutions, regulatory bodies, mobile operators, and corporate and private enterprises in developing countries (Mas, 2009; Duncombe and Boateng, 2009; Mas and Ng'weno, 2010; Demombynes and Thegya, 2012). Studies funded by the mobile industry, or financial institutions, focussed on business models, product design, profit maximisation, agent's liquidity, delivery mechanisms and regulatory controls through a techno-economic lens on m-banking practices (Porteous, 2007; Hughes and Lonie, 2007). Although studies, funded by international agencies, highlighted social research indicators, with an inordinate degree of critical analysis, the research discounted the political-cultural context of m-banking practices in the developing country (Hughes and Lonie, 2007). Hence, there is a cumulative demand and pressure placed on researchers to transgress beyond providers' perspectives centred on m-banking design, construction and implementation towards a more user-oriented approach. My research, therefore, aims to knit together both G2P programme managers' and users' perspectives in the specific case study in Pakistan.

The review of the literature on m-banking practices further confirmed that studies primarily were centred on mobile payments, most commonly, in the form of P2P payments that were the dominant practice in developing countries (Heyer and Mas, 2009; Mas and Radcliffe, 2010; Morawczynski, 2011). Whilst some studies in Kenya and Tanzania explored domestic urban-rural transfers (Mas and Morawczynski, 2009; Camner and Sjoblom, 2009), other studies compared international mobile remittance patterns amongst migrant populations across developing countries (Alampay and Bala, 2010). Further, it was observed that over-the-counter person-to-business payments (P2B) were pervasive amongst users in South Asian countries, specifically, in India, Bangladesh and Pakistan (Bold, 2011; Chen, 2012).

However, a prominent gap that emerged from the literature was that in middle income countries- Brazil, Columbia, Mexico and South Africa, digital tools (smart cards/debit cards) other than mobile technologies, were utilised for disbursing G2P payments to beneficiaries (Mas, 2009; 2012; Bold, Porteous and Rotman, 2012; Gelb and Decker, 2012; CGAP, 2013; Oberlander and Brossmann, 2014). Although studies looked at m-

banking in the private sector for disbursing social cash, there were few programmes that deployed m-banking in the government sector in low income countries. In my research, it is pertinent to discover how m-banking combines the social and financial inclusion objectives for G2P programme managers. Hence, there is little research to-date that examines the relationship between m-banking and micro-entrepreneurial development-via financial inclusion in G2P households.

In order to address these gaps, my study is centred on a government social cash programme in Pakistan that implemented m-banking in selected regions for distributing G2P payments to women beneficiaries. By analysing the relationship between m-banking innovation and the developmental outcomes for financial inclusion in the case study, the research evaluates whether m-banking plays a critical role in the structural transformation of households for financial inclusion in G2P households.

Moreover, I stress that previous studies on m-banking failed to provide a unified approach that integrated m-banking innovation with the developmental outcomes. In this sense, Heeks (2010) draws our attention to analyse the impact of *socially-embedded* ICTs, as earlier studies focussed on ICT adoption and diffusion models. Donner and Tellez (2008) also argued that contextual factors are a critical input in the construction of m-banking that affects usage and impact. So by examining the processes linked to m-banking innovation, within the context of G2P designers and users, I seek to extend the understanding on the effects of technology on the institutional properties of households. Hence, my study seeks to address how the social construction of m-banking enables and/or constrains G2P managers and beneficiaries for *progressive* or *disruptive* transformation (Avgerou, 2010) in G2P communities in Pakistan.

Another significant conceptual gap highlighted from current research was that m-banking studies attempted to measure the economic impact of mobile payments on households, but failed to offer a multi-dimensional view on the effects of technology on the human development indicators. As the research matures, my study explores whether m-banking channels contribute towards micro-entrepreneurial development for poverty reduction in G2P households. So I aim to contribute towards the ICT4D strand of literature by evaluating whether m-banking programmes in the G2P sector are inclusive for enhancing the capabilities of users for socio-economic development.

2.5.3 Methodological Shortcomings and Gaps

From a methodological standpoint, the extant research done on m-banking was predominantly located in the positivist paradigm of social inquiry. As most studies were deductive in their research approach, the objective nature of the inquiry deployed quantitative methods for data collection. Although quantitative studies represented larger population samples for the generalisation of results, arguably, there was lack of in-depth analysis in exploring m-banking issues. Such studies failed to connect actors to their social, organisational and environmental contexts, as quantitative research ignored many local factors inherent in the context of design and use of m-banking.

However, I observed that few studies on m-banking were situated in the interpretive paradigm (Morawczynski, 2008; 2009; 2011; Medhi, Ratan and Toyama, 2009; Hinman and Matovu, 2010). As the qualitative nature of inquiry located the research within a socio-cultural tradition, the results from those studies were unique to their specific contexts. Hence, this study of m-banking aims to highlight the country's unique social, political and cultural context that embeds m-banking practices in the G2P programme. Moreover, drawing on the inductive approach, an essential aim of this social inquiry is to contribute towards theory building in discovering new theoretical propositions to extend the existing analytical framework. Whilst the philosophical orientation of my study steers a qualitative inquiry, the rich data collected from managers and users may deepen our knowledge on the social construction, use and structural effects of m-banking in the G2P programme.

Further, there was criticism that many m-banking studies had previously marginalised women users, as participants, in the research inquiry. Whilst some studies highlighted both men and women users' perspectives (Morawczynski, 2008; 2009; 2011), such findings have limited relevance for this study as users in this G2P programme are exclusively women. Hence, by giving voice to women users and pinning their individual perceptions on m-banking usage, this study hopes to gain new insights on m-banking by constructing narratives from female users.

Finally, the interpretivist case study represents a unique case to investigate how m-banking is used by a government social cash programme in Pakistan. As geographically, Pakistan remains under represented in the m-banking literature, and more specifically, in the G2P context, this study to my knowledge is the first academic research from Pakistan that investigates how m-banking provides the route for financial inclusion. My study seeks to contribute to the methodological strand of literature which has implications for a range of stakeholders- governments, policy makers, social cash managers, financial institutions, mobile operators and international agencies.

2.6 Summary- Research Objectives and Questions

The critical analysis of the literature highlighted the significant gaps in earlier studies that provides justification for undertaking the study. Hence, the objectives of this research are to investigate how the social construction of m-banking enables and/or constrains financial inclusion in G2P households in the Benazir Income Support Programme in Pakistan.

Hence, the research proposes the following research questions:

- How is the social construction of m-banking design influenced by external and internal institutional factors in the G2P programme?

- How does m-banking in the delivery of G2P payments enable and/or constrain programme designers and women beneficiaries?

- How does m-banking affect the institutional properties of households for structural change, or financial inclusion in G2P households in Pakistan?

These research questions are cultivated in the theoretical framework- Orlikowki's Duality of Technology (1992) that is presented in Chapter 3. Whilst current m-banking models sketch a rather optimistic picture on the financial landscape in Pakistan, I aim to

discover whether m-banking in the G2P sector is perceived as the silver bullet in connecting poor households to an ICT-enabled grid to foster financially inclusive practices in households in Pakistan.

Chapter 3: Theoretical Framework

3.0 Introduction

The previous chapter positioned my research in the domain of Information Communication Technologies for Development (ICT4D) with specific reference to the sub-field of m-banking as an intervention in government cash programmes. Based on the research gaps identified, the research objectives have been codified as a set of research questions. In this chapter, I illustrate the theoretical framework through which I have structured my research- by means of the theory that acts a sensitising device and offers a valuable framework for conceptualising and interpreting the socio-technical processes in the inquiry.

The theoretical framework devised for this research is based on structuration theory that has been widely applied in information systems research- Orlikowski's Duality of Technology (1992). Although the framework is well established in the IS literature (Walsham and Han, 1993; Karsten, 1995; Pinsonneault and Kraemer 2002; Rahul De' and Ratan, 2009), so far it has been absent in the m-banking literature, or rather in the specific G2P context. In this study, Duality of Technology (DoT) postulates the vision of the *social construction of technology (SCOT)* to analyse m-banking innovation in G2P programmes, whilst the framework conceptualises m-banking as being *socially-embedded* in the social and organisational contexts (Avgerou, 2008). Further, DoT provides a unique lens in highlighting the *duality of technology*- how technology is constructed and enacted by social actors for a specific purpose, whilst it also conditions the practices of designers (G2P managers) and users (G2P beneficiaries) through usage. Also, it illustrates how the *enabling* and/or *constraining* effects of technology affect the institutional properties of households for financial inclusion. Hence, by combining m-banking innovation with the developmental outcomes (Avgerou, 2010), the framework explores whether m-banking leads to structural change or transformation of socio-economic properties of G2P households in Pakistan (Kemal, 2015).

Although Duality of Technology has been previously utilised in the respective IS domain, its novelty in my framework consists in combining the visions of the *social*

construction of technology (SCOT) and *social-embeddedness* with *usage* and *structural innovation*, in a single theoretical lens to study m-banking innovation. In doing so, a composite research framework structures my study to drive the empirical research in exploring the role of m-banking and its interaction with human agency in affecting the institutional properties of households. The theoretical propositions operate at a high level of abstraction and link the concepts to the research questions. Hence, as a meta-theory it guides the empirical investigation in the social inquiry to offer an explication of the logic of research into human social activities (Kemal, 2015).

3.1 Structuration Theory in Information Systems Research

The previous chapter highlighted how structuration theory was used in the m-banking literature. This section illustrates the application of structuration theory in the general Information Systems field and scholars have argued that it one of the most popular theoretical paradigms influencing Information Systems research over the last decade (Poole and DeSanctis, 2004; Pozzebon and Pinsonneault, 2005). However, I will first briefly outline how structuration theory in IS research draws on Giddens' work.

Giddens' structuration theory (1979; 1984; 1991; 1993) theorises the relationship between individuals and society in proposing that structure and agency are a mutually constitutive duality- the *duality of structure*. Whilst structure is defined as rules and resources, organised as properties of social systems, agency is the knowledgeable reflexive actions of humans (Giddens, 1979; 1984). Thus, social phenomena are not the product of either *structure*, or *agency*, but of both. Social structure is not independent of agency, nor is agency independent of structure, but rather human agents draw on social structure in their actions, and simultaneously, those actions serve to produce and reproduce social structure. Hence, for analytical purposes, Giddens (1984) identifies three dimensions of structure: *signification (communication)*, *domination (power)* and *legitimation (sanction)*. Further, Giddens' view of agency is strongly voluntary as human agents have the possibility of doing otherwise, so their actions are knowledgeable actions (Jones and Karsten, 2008).

Notably, Giddens' structuration theory does not conceptualise technology and is limited to the relationship between social agency and structures. Hence, by neglecting the technological artefact and its abstract, non-propositional character, makes Giddens' theory an unlikely source of insight for IS researchers (Jones and Karsten, 2008). However, some significant strengths of his work include the provision of a non-dualistic account of the structure/agency relationship that may be seen to avoid technological or social determinism (Markus and Robey, 1988), its dynamic conceptualisation of structure as being continuously produced and reproduced through practice in facilitating the study of change (Orlikowski, 2000) and its broad ranging account of social processes that is of interest to IS researchers.

Scholars from IS research draw upon the fundamental concepts from Giddens' structural paradigm to study technology innovation in organisations. This gave rise to various structuration models of technology that provided insights on the role and relationship of technology interacting with organisational structures (Barley, 1986; 1990; Poole and DeSanctis, 1989; 1990; 2004; Orlikowski and Robey, 1991; Walsham and Han, 1991; Orlikowski, 1992; Walsham, 1993; DeSanctis and Poole, 1994). Although structuration theory has been appropriated by scholars to study technology-induced organisational change (Barley, 1986; 1990), there has been little attempt to reconceptualise the notion of technology leading to anticipated or unanticipated structuring that alters technology's physical form and use across time and context.

Barley's (1986) use of structuration theory in the *technology-triggered structural change model* treated technology as a pivot between action and structure- where technologies might not be structural determinants, but rather their implementation in organisations were occasions during which social actors re-evaluated the structures in which they worked. Despite technology being defined, as a social entity that is socially constructed, some authors contend that technical-driven social change is rooted in technology's material or physical artefacts, and is transformed into social forces that significantly affects social organisations (Barley, 1990). Other authors have also critically reviewed structuration models of technology in exploring concepts, such as practical and discursive consciousness, routinisation and unanticipated consequences resulting from technological innovation (Walsham and Han, 1991; Walsham, 1993).

Nonetheless, like Barley, other authors have appropriated the structuration literature through Adaptive Structuration Theory (AST) that explains the mutual influence of technology on social processes and interactions (Poole and DeSanctis, 1990; DeSanctis and Poole, 1994). In the formulation of AST, technology use was also the modality of structuration, focussing specifically on how new technologies could reconfigure group structures through *ironic appropriation* of technology's features. However, Jones and Karsten (2008) noted that AST departed from Giddens' central idea of structuration in conceiving structure within technology, its identification of other independent sources of structure, and the concept of dialectical control between the group and technology. As these tenets were inevitably elaborated through underspecified concepts, such as *spirit* and *appropriation*, no substantive theoretical justification was offered to produce a contingency model of technology's effects on structure. Whilst scholars have claimed AST to be incompatible with the central tenets of structuration theory (Jones, 1999; Jones and Karsten, 2008), moreover, the focus on structuring social groups makes AST inapplicable to this study.

Other studies attempted to integrate the structuration concepts with other theories, for instance, with the Actor Network Theory (Lea, et al., 1995; Walsham and Sahay, 1999). However, the black boxing of technology, or treating the content and context independently has been extensively criticised in IS research (Lea, et al., 1995). However, Walsham and Sahay (1999) applied structuration, as a meta-theory, and used ANT as a more detailed methodological and analytical framework to study socio-technical relationships in organisations. In the context of my study, combining structuration with ANT, as an analytical lens, would perhaps overstate the nature of socio-technical relationships between various micro-macro actors, and in the process, may astray us from the main objectives of the research.

Further, more recently, the theme of socio-materiality has been promoted in the IS discipline (Orlikowski, 2007; 2010; Orlikowski and Scott, 2008) that has encouraged debate on a relational ontology that assumes that the 'social and material are inherently separable' (Orlikowski and Scott, 2008, p. 456). As Orlikowski (2007, p. 1437) cited, *'the social and material are considered to be inextricably related- there is no social that is not also material, and no material that is not also social'.* So whilst the social and material are constitutively entangled in everyday life, *entanglement-in-practice* does not

privilege either humans or technology, nor does it link them through a form of mutual reciprocation (Orlikowski, 2007). This perspective contradicts the earlier substantialist ontology which assumed that the social and material were separate and discrete in existing as self-contained entities that interacted and affected each other (Orlikowski and Scott, 2008). Nevertheless, socio-materiality reflects that capacities for action are relational, through which distributed collaboration is facilitated or constrained, and enacted through particular instantiations of the material or synthetic world (Orlikowski, 2010). Hence, socio-materiality undermines dualism and commits to a relational ontology that investigates a reality that is dynamic, multiple and entangled (Scott and Orlikowski, 2014).

Leonardi and Barley (2008) highlight how researchers have had difficulties in accommodating materiality in organisational change because often they conflate the distinction between the material and social with the distinction between determinism and voluntarism. Hence, they argue why such conflation is unnecessary and outline an agenda that aims to reconcile materialism with voluntarist (or agential) theories of change with the notion that outcomes of technological change are socially constructed. In order to tease apart the role of the material and social, first- researchers need to remove the stigma of determinism from materiality. Second- capture variation in socio-material configurations and opportunities for change, third- study the interplay between materiality and agency across development, use and implementation, and finally, realise that that they no longer need to demonstrate that technologies can occasion different outcomes in different social contexts. Hence, in outlining these four challenges, the goal is to push research in directions that will simulate a new understanding of the dynamics of technology-induced change in enabling scholars to build better theory about the role of materiality.

Although the importance of the material in social and organisational life has gained considerable interest in ‘socio-materiality’ (Leonardi, Nardi and Kallinikos, 2012), the relational basis of the original proposition for a socio-material perspective in this study is considered ineffectual based on counterviews and competing proposals leading to multiple uses of the alternative term (Kautz and Jensen, 2013). Faulkner and Runde (2012) dispute the relational basis of socio-materiality in arguing that its key determination is the focus on material agency in explaining the social over which they

prefer a substantialist ontology. They agree that 'technological objects are shaped by the activities of humans, [and] that technological objects in turn shape human activities'. It is noted that this viewpoint is mirrored in the duality of technology approach, as technology use becomes a constitutive feature of organisational structure. Similarly, Leonardi (2012) uses the notion of socio-materiality to emphasise the role of materiality in all phenomena that is typically considered social. He considers the materiality of technology as independent of people, persisting across space and time, whilst presenting specific affordances and constraints for people using technology within socio-technical systems. Further, it is argued that Orlikowski and Scott (2008) do not make a distinction between the material and physical properties of technology. As most of information technology artefacts, such as software applications, have no 'physicality', but are accessible only through certain technological artefacts that have physical properties that are made of identifiable materials, and serve as 'bearers' (Leonardi, 2012), scholars generally use the terms interchangeably.

However, Kallinikos et al. (2012) further contend that matter is not important but also form. Thus matter (or whatever constituent material out of which technology is fashioned) and form together constitute those properties of a technological artefact that do not change, by themselves, across differences in time and context. It is the combination of material and form that is materiality, although materiality does not solely refer to the materials out of which technology is created and is not a synonym with physicality. Instead, technology's materiality refers to the ways that its physical and/or digital materials are arranged into particular forms that endure across differences in place and time. Hence, once technology is built, its materiality is fixed, unless some subsequent redesign is undertaken, so in the context of my study, mobile phones are physical, although the materiality of its form or use changes.

Yet another strand of thinking is presented by Mutch (2013) who criticises the relational basis for socio-materiality (Orlikowski, 2007; 2010) - calling it a 'wrong turning' as it fails to be specific about technology and neglects broader social structures. Hence, according to Mutch (2013) the theoretical underpinning of socio-materiality on agential realism is critically flawed and hence, socio-materiality is contestable. The notion of human beings as a natural kind is resisted with a form of analysis that downplays the defining characteristics of intentionality as part of agency. Faulkner and Runde (2012)

also echo that the thesis of interpenetration of the social and material make the operationalisation of the empirical constructs difficult with focus on the internal relations, although some may also be external in the sense that they may be related but independent of each other. Leonardi (2012a) also states that agential realism presents empirical problems because actors in the world do not perceive the social, technological and organisational entities as interpenetrated entities. Further Mutch (2013) argues that socio-materiality ignores time, since organisations and peoples' practices exist in time as they unfold and change along a temporal plane. Leonardi (2013) further critiques socio-materiality as it treats all relationships as mutually constitutive which overlooks how and why phenomena get put into relationships with each other, and consequently, how their relationships might change the phenomena other than themselves. Other authors also stress how the socio-material view needs to take into account how the material and social co-produce organisational arrangements when new comers become socio-materially entangled when they first enter an already equipped context, since the perspective ignores the roles and consequences of technology while it affords and constrains the development of competent socio-material practice (Cecez-Kecmanovic, et al., 2015).

3.2 Influence of Research Philosophy on Theoretical Framework

The epistemological stance of my study draws upon the socio-technical perspective of Information Systems (IS) theory that reflects on my philosophical belief regarding the nature of m-banking innovation and its emerging role in shaping social processes and structures (Avgerou, 2008). The study subscribes to the ontological belief of *social constructionism* in signifying that social actors, through their participation in social processes, construct and reconstruct reality and knowledge and endow it with subjective meanings, beliefs and intentions during their interactions with the world (Orlikowski and Baroudi, 1991). The *interpretivist* paradigm envisions that truth and knowledge, being social entities, are incapable of being understood independent of social actors who construct and make sense of the reality of technology (Orlikowski and Baroudi, 1991; Walsham, 1993; 1995). Therefore, researchers concede that the *'world is not conceived of as a fixed constitution of objects but rather as an "emergent" social process- an*

extension of human consciousness and subjective experience' (Burrell and Morgan, 1979, p.253). Further, interpretivist research seeks to *'understand the inter-subjective meanings embedded in social life [and hence] explains why people act the way they do' (Gibbons, 1987, p.3).*

Situating my study within interpretivist IS research, the theoretical framework subscribes to the assumption that the reality of m-banking within the social word is not given or objective, but rather socially constructed and reinforced by social actors through their engagement with socio-technical processes. Since researchers have argued that meanings, beliefs and intentions formed around technological innovation are transferred, used and negotiated, the interpretation of reality may shift over time as circumstances, objectives and constituencies change (Orlikowski and Baroudi, 1991).

Whilst positivist IS research, displayed through the *technological imperative model*, posits a hardware view of technology- that is- an external, exogenous force with causal unidirectional and deterministic impacts on institutional properties or structures (Carter, 1984; Davis, 1989), this perspective furnishes an incomplete account of technology and its interaction with organisations. Other authors characterise technology as social technologies conceived in the *strategic choice model* that articulates technology as an outcome of strategic choice and social action influenced by the context and strategies of technology decision-makers and users (Markus, 1983; Davis and Taylor, 1986; Zuboff, 1988). The model does not recognise that technology is immutable, as it relies heavily on shared interpretations, interventions and the capability of human agents to influence its design and use whilst discounting the influence of environmental forces for the unintended consequences of organisational change (Zuboff, 1988). Furthermore, whilst proponents of the exogenous view subscribe to a positivist paradigm, the strategic choice model suggests a methodological shift towards an interpretivist approach in constructing historical and ethnographical accounts of technological production, use and change within organisational structures (Orlikowski, 1992).

Other streams of research have viewed technological innovation in organisations through an economic lens represented traditionally by Marxist accounts of technology, such as those of Braverman (1974), Cooley (1980), Noble (1984) and Perrolle (1986). However, such theories underpin the economic and political interests of powerful actors in the way

technology is devised and deployed in institutions. Hence, the studies overlook the diverse ways in which technology is appropriated and utilised by workers, and the non-uniform manner in which it structures individual action and organisational behaviour (Powell, 1987). So it is noted that the structuration framework in this study entrenches the social constructivist view of m-banking that rejects the technically-sophisticated, hard-edged approach to social research (Giddens, 1991). Within this belief, Mohrman and Lawler (1984) state, *'because technologies are socially constructed, they can be reconstructed as well…….the technology itself can be changed by those using it' (Mohrman and Lawler, 1984, p.136).* This ontological view of technology in the research framework resonates with Giddens who rejected objectivism and the naturalistic approach to social inquiry in describing social sciences as 'irretrievably hermeneutic'- that is reliant on interpretation, regardless of the specific data gathering and analysis techniques that it employs (Giddens, 1993).

Nonetheless, by reconceptualising the scope and use of technology (m-banking) and its relationship with social agents (women beneficiaries/ programme managers) and institutions (households/ BISP), Orlikowski's *Duality of Technology* (1992) provides deep insight to investigate how m-banking is socially constructed, improvised and enacted by social actors through interpretations, social interests and disciplinary conflicts. Orlikowski operationalised action itself as technology use, and actors' technology use is the action out of which organisational structures are constituted. Hence, the *Duality of Technology (DoT)* conceptualises technology as material artefacts that are an outcome of coordinated human action, and hence, inherently socially-created and changed by human action, and used by humans to accomplish certain actions. In doing so, technology also conditions, *enables* and/or *constrains*, social actors whilst *interpretive flexibility* shapes technology through its interactions with social actors. However, Orlikowski (2000) in her *practice lens* account argues that technology structures are emergent, rather than embodied that draws a distinction between the technological artefact and *technology-in-practice.*

Hence, the discourse related to the ontological nature of the technological artefact and its role in institutions to shape human practices and organisational structures is paramount to inform the theoretical framework in this research. Whilst it is seen that different streams of IS research offers conflicting perceptions on the scope and role of

technology, underlining the philosophical contradictions between the subjective and objective realms dominating social research, Orlikowski's structuration theory directs an interpretive and social constructionist view to examine the social construction and design of m-banking that may have implications on financial inclusive practices for households in Pakistan.

3.3 The Duality of Technology

Orlikowski (1992) extends the concepts in Giddens structuration theory (1979; 1984) to allow a deeper dialectical understanding of the interaction between technology, social agents and organisations. By offering a soft determinism, she examines how technology is socially constructed by designers, but constantly shaped and improvised by users' ongoing practices to enact structures through its enabling and/or constraining effects. Hence, DoT offers a comprehensive framework that helps us to examine how the social construction of m-banking by G2P programme managers, enables and/or constrains human choices for both managers and women beneficiaries. Also, how m-banking reinforces or transforms the institutional properties of households, as users' actions effect organisational structures. Hence, through the framework I seek to determine whether m-banking affects the socio-economic properties in users' households for financial inclusion under the socio-cultural, economic, political and regulatory forces in Pakistan.

3.3.1 Processes in the Duality of Technology Framework

Orlikowski's Duality of Technology (1992) comprises of human agents, or social actors (technology designers/ users), technology (m-banking) and institutions (households/ G2P organisation) as reflected in Figure 3.1. Technology designers are the programme managers in the G2P programme under study, and users are women beneficiaries who receive welfare payments from the government programme. It is noted that households constitute the institutional context for users, whilst the institutional setting of technology designers is the BISP organisation in the framework. According to Avgerou (2002), 'households possess authoritative established rule-like procedures with a self-sustaining

character, or certain social patterns that when chronically reproduced, owe their survival to relatively self-activating social processes'. The institutional properties of households relate to the structural arrangements- customs, tradition, economic and social characteristics, communication patterns, division of labour, household size, and users' demographics. Environmental factors pertain to the political, regulatory, economic, and socio-cultural forces which influence G2P managers in the construction and design of m-banking for delivering G2P payments to women beneficiaries. The relationships between these components are identified as 'processes' in the framework, as displayed in Figure 3.1. The DoT framework also depicts how the research questions are linked with the processes.

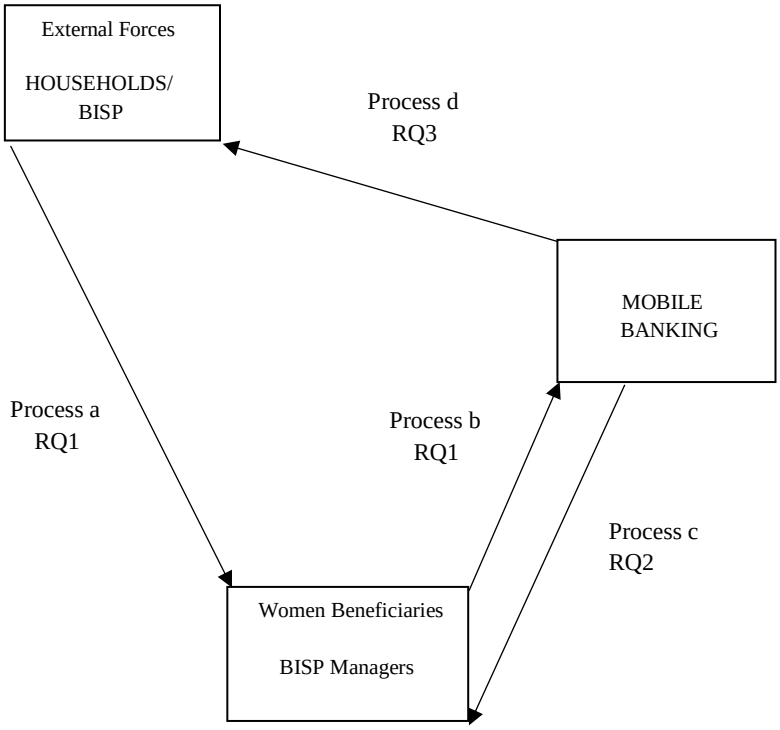

Figure 3.1: Relationship between Duality of Technology and Research Questions
Source: Adapted from Orlikowski, W.J., 1992. The Duality of Technology: Rethinking the Concept of Technology in Organisations. Organization Science, 3 (3) pp.398-427.

The Duality of Technology framework illustrates the following relationships or processes as summarised in Table 3.1. These processes cultivate the research questions in the study.

Process	Type of Influence	Nature of Influence
a	Institutional Conditions of Interaction with Technology	Institutional properties influence human actors in their interaction with technology during design and they also draw upon external forces.
b	Technology as a Product of Human Action	Technology is an outcome of human action- as design, social construction, appropriation and modification.
c	Technology as a Medium of Human Action	Technology facilitates and constrains human action through the provision of interpretive schemes, facilities and norms.
d	Institutional Consequences of Interaction with Technology	Interaction with technology influences the institutional properties of an organisation through reinforcing or transforming structures of significance, domination and legitimation.

Table 3.1: Processes in the Duality of Technology
Source: Adapted from: Orlikowski, W.J., 1992. The Duality of Technology: Rethinking the Concept of Technology in Organisations. Organization Science, 3 (3) pp.398-427.

Institutional Conditions of Interaction with Technology (Process a)

The first relationship presented in Orlikowski's Duality of Technology pertains to the '*institutional conditions of interaction with technology'* (Orlikowski, 1992). It concerns the nature of human action in organisations- that is- situated action shaped by the organisational context. When interacting with technology, during the design and construction, human agents are influenced by the institutional properties of their setting. Hence, the Duality of Technology relates to the nature of human action in organisations, or situated action- that is shaped by the institutional context of technology designers, and is subject to the external forces, or *interpretive schemes*, in the environment. Human agents, whether technology designers or users, draw on existing stocks of knowledge, 'normalised' standards and cultural and traditional norms for designing and/or improvising socio-technical practices (Orlikowski, 1992). This implies that technology designers and users, in their recurrent social practices, utilise resources from their institutional contexts- for instance- experiences, norms and meanings that inform their ongoing practices and recursively instantiates the rules and resources that structures their social action (Orlikowski, 2000). Hence, technology is built and used within certain social and historical circumstances and its form and function bears the imprint of these conditions (Orlikowski, 1992).

In the context of my study, through this process, I examine how G2P programme managers are influenced by the external and internal institutional forces that motivates their actions in shifting from cash-based to mobile-based G2P payments. Hence, it is paramount to study the effects of the regulatory, economic, political and social forces that influence the social construction and design of m-banking in the social cash programme in Pakistan. As m-banking innovation in the G2P sector has been overlooked by authors in the past, in this study it formulates into an important research question.

Technology as a Product of Human Action (Process b)

The second relationship, '*technology is a product of human action'*, reinforces the notion that technology comes into existence only through creative human action, and is sustained through usage by ongoing maintenance and adaption. Hence, this influence highlights the *social construction of technology* (SCOT) that draws upon the IS stream

of literature. It examines how shared interpretations around a certain technology arise from social actors to affect the development and interaction with technology (Pinch and Bijker, 1984; 1987; Bijker, 1987; Bijker and Law, 1992). Hence, SCOT reflects on how social interests and disciplinary conflicts evolve from the external and institutional contexts that shape the construction of technology by designers. Also, it accounts for how technology is reified, or institutionalised, through different meanings attached by various social actors and the different features they emphasise to use during their social interactions (Orlikowski, 1992).

Although Orlikowski (1992) perceives technology as a material artefact, once it is developed and reified in structures, it loses its connection with designers, and may become part of the objective, structural property of the organisation. However, the institutional conditions that influence the design and use of technology draws our attention to the *embedded* nature of technology that is predicated upon a socio-technical vision within the IS domain (Avgerou, 2002; 2008). Therefore, the notion of *social-embeddedness*, as identified by Avgerou (2008), postulates a *situated* view on technology- as a locally constructed course of action for organisational change. Whilst its purpose arises from local problems, its course of action is determined by the way local actors make sense of it and accommodate it in their lives (Avgerou, 2008).

So whilst technology is socially constructed by designers, it is improvised and enacted by users through different meanings they attach to it, and the various features they choose to use (Orlikowski, 1992). However, Orlikowski (1992) recognises the time-space discontinuity between the design and use of technology that reflects upon the *interpretively flexible* nature of technology. Hence, the notion of *interpretive flexibility* defines two modes of interaction. In the design mode, programme managers implement technology to meet managerial goals, whilst building certain interpretive schemes, facilities and norms in technology that are a function of the institutional and social context implicated in its development and use (Pinch and Bijker, 1984; 1987; Bijker, 1987; Bijker and Law, 1992; Mackenzie and Wajcman, 1999). However, owing to *interpretive flexibility*, users improvise technological practices through their engagement with technology. So once created and deployed in organisations, technology remains inanimate and ineffectual unless given meaning and enacted by social actors. This further reflects on the *duality of technology*, as technology on its own plays no meaningful role

in institutions, and hence, only through its use and appropriation by social actors, it becomes significant in social organisations (Orlikowski, 1992).

In the context of my study, m-banking is designed by G2P programme managers, but is used by women beneficiaries to access social cash, although its implementation effects organisational processes for managers. In the use mode, both women beneficiaries and managers appropriate m-banking by assigning meanings to it which influences their appropriation of the interpretive schemes, facilities and norms designed into technology. Although women beneficiaries' role during the construction process remains insignificant, with little discretion over which elements influence their interaction with technology, they may choose to ignore certain properties of m-banking, or modify their practices owing to *interpretive flexibility* that may go beyond designers' expectations and inscriptions of technology (Orlikowski, 1992). Even managers' usage of m-banking affects their practices in distributing payments to beneficiaries. Hence, beneficiaries' and managers' repeated usage of m-banking influences their recurrent socio-technical practices.

Further, the notion that technology needs to be appropriated by social actors retains the element of control that both designers and users possess during usage (Orlikowski, 1992). In connection to my study, the use mode depicts women beneficiaries' interactions with technology- whether m-banking practices are used, modified or resisted for receiving G2P payments. Hence, the evolving nature of digital technologies for disbursing G2P payments accounts for technology-in-practice that is shaped by users (Orlikowski, 2000).

This relationship is also linked to 'process a' in highlighting the social construction of m-banking, as an outcome or product of social action, whilst being used in two different contexts- in the organisational context of managers and users' context in households. Hence, this relationship pertains to the construction/usage of m-banking in the DoT framework.

Technology as a Medium of Human Action (Process c)

Within the third relationship, '*technology as a medium of human action'*, Orlikowski (1992) postulates that technology is enacted through human agency, so technology cannot *determine* but only *condition* human practices. Although this influence resembles that posited by earlier scholars of the *impacts of technology* on the *use of technology*, it is argued that whilst *conditioning* social practices, technology may *enable* or *constrain*, or do both. Thus, the *duality of technology* reflects that whilst being a product of human action, technology also shapes individual practices unless users choose to act otherwise. This action underpins the role of human agency who are knowledgeable and reflexive in their actions. However, Orlikowski (1992) posits that the dual influence has not been typically recognised in the literature in an attempt to determine definitively the 'positive' or 'negative' effects of technology on users. Orlikowski further claims that although technology, as a medium of social practices, has both restricting and enabling implications, it cannot be claimed which effect is more pronounced which affects the actions of designers and users in their unique institutional settings.

In my study, m-banking may impose certain *enabling* and *constraining* effects on G2P managers and women beneficiaries. As the constraints may be social, cultural, institutional, or inherent within the technological artefact, the study attempts to understand the underlining factors that affects usage of m-banking by managers and beneficiaries. By doing so, the framework embeds the second research question in this study in exploring how m-banking shapes the course of action for social actors within their respective institutional contexts.

Institutional Consequences of Interaction with Technology (Process d)

In the final relationship, '*institutional consequences of interaction with technology'*, Orlikowski (1992) draws a relationship between technology and institutions- that is- linked to user's recurrent engagement with technology that may constitute and reconstitute emergent structures. Hence, DoT defines the manner in which technology becomes reified and institutionalised in social structures- either typically *reinforcing* them, or less frequently, *transforming* them. So it is argued that while an innovation may be adopted or improvised because of its acquired legitimacy, irrespective of whether it

produces its promised technical value, technology is an enacted environment where the construction and use is conditioned by the organisation's structures of significance, domination and legitimation. Hence, the appropriation and use of technology by human action implies the change or reinforcement of these three institutional properties (Orlikowski, 1992).

Nonetheless, Orlikowski's theory hypothesises institutions as similar to Giddens' (1979) framework in which structure is understood as a generic concept and manifested only in the structural properties of social systems. Moreover, interpretive schemes signify organisational *structures of significance* which represent the organisational rules that inform and define interaction. As interactions in organisations do not occur blindly, but are rather guided by the application of normative sanctions, shaped by the cultural norms in the institution, norms constitute the organisational *structures of legitimation*. As a result, scholars contend that moral order within an institution is articulated and sustained through rituals, socialisation practices and tradition (Orlikowski, 1992; 2000; Powell, 1987).

However, notably, whilst organisational rules and norms mediate human action, they are either reaffirmed, or challenged by human actors. So when technology is not used as intended, it may undermine or sometimes transform the embedded rules and resources, and the institutional context of technology designers and users. As users may deviate from the normal conditions, in such situations, the enacted or negotiated use of technological practices may differ from the intended use. By doing so, technology, or m-banking may affect the institutional properties of structures in *unanticipated* ways in giving rise to emergent structures and new financial practices (Orlikowski, 1992).

In the context of my study, this relationship accounts for how m-banking affects the socio-economic properties of beneficiaries' households for institutional change or financial inclusion, as presented in the final research question. So whilst the framework hypothesises technology designers' institutional context in the social construction of technology, this relationship stipulates users' institutional setting that is affected by technology in use. Therefore, through the DoT framework, I seek to investigate the link between m-banking practices and financial inclusion resulting from the structural transformation of G2P households.

3.3.2 Critical Discussion on Framework

A potentially significant implication of Giddens' view of structure from an IS perspective is that it is synthesised as a *'virtual order of transformative relations that exists, as time-space presence, only in instantiations in [reproduced social] practices, as memory traces orienting the conduct of knowledgeable human agents' (Giddens, 1984, p.17).* Giddens argues that this is also the case for technology which might seem to have real existence, but becomes a resource only when incorporated within the processes of structuration. Hence, he further contends that technology does nothing except as implicated in the actions of human beings. However, this does not imply that technology has no influence on social practices, but whatever effects it has depends on how social agents engage with it in their interactions (Giddens and Pierson, 1998). IS researchers, therefore, treat social actors as knowledgeable agents who actively shape technology through their use (Jones and Karsten, 2008).

Moreover, it is noted that Orlikowski's Duality of Technology (1992) recognises a distinctive ontological and epistemological stance that Giddens mirrors in his structuration theory (1990; 1991). In the formulation of *duality of structure*, Giddens (1979) overcomes the *dualism* between objective structural features of organisations and subjective knowledgeable action of human agents. From an agency perspective, since humans create and recreate three fundamental elements of social interaction- meaning, power and norm, the interpretive schemes based on human interactions, therefore, reject objectivism and naturalism in social research. In this study, the DoT framework also subscribes to a similar philosophical stance that is reliant on interpretation of the specific social setting. Hence, the structuration concepts in DoT are seen as sensitising devices that provide an explication of the logic of research into human social activities rather than a source of testable propositions.

Furthermore, Giddens (1979) observes power to enter into human interactions through the organisational capabilities of social actors to accomplish certain outcomes. Therefore, power is perceived to have a *transformative capacity* through human action, and mediated through organisational resources that are utilised by social actors and mobilised within interactions. Also, as authoritative resources reflect structures of

domination, power is exercised through these structures (Giddens, 1979). Whilst the same argument may be relevant to study the issues of power that may be possessed by, or transferred to technology in IS research, in this study, it is not linked with my research questions.

Moreover, it is noted that due to *interpretive flexibility*, the assumption that technology becomes stabilised after construction is discounted. As DoT is a process theory, structuration is deemed as a dynamic process where there is no single invariant black-boxed technology as technology evolves through routinised habitual practices. Further, the ongoing interaction of technology with organisations is understood dialectically, as processes interact recursively with each other, rather than in a linear deterministic fashion that transcends settings, technologies and intentions. Hence, structuration being a dialectical process may also be contradictory in practice (Orlikowski, 1992).

Further, the Duality the Technology allows us to conceive and examine the interaction of technology and organisations at the inter-organisational, organisational and individual levels, focussing on the inseparable linkages and processes at multiple levels of analysis. In this study, the framework affords a cross organisational examination as technology designers' and users' institutional contexts differ, which acknowledges the movement of technology through time-space discontinuity and across organisational boundaries (Orlikowski, 1992). Whilst m-banking is constructed and used within G2P programme designers' institutional context, it is also transferred to beneficiaries' household contexts for assessing the structural effects for financial inclusion.

Nonetheless, the DoT framework is justified in my study for its novelty in offering a unique socio-technical lens that evaluates m-banking innovation in light of the developmental effects on households. However, as the study unfolds the framework may offer limited insights into the opportunities that mobile technologies provide in enhancing individual's capabilities for engaging in more knowledgeable actions.

3.4 Linking the Framework with the Conceptual Model

The theoretical framework- Orlikowski's Duality of Technology (1992) articulates the specific research interest and cultivates the research questions in this study. Whilst

epitomising the *social construction of technology* and *social-embeddedness* of technology, the framework conceptualises the processes of technology construction, usage and institutional effects on development for undertaking empirical research. With respect to exploring m-banking for financial inclusion in this study, DoT provides the most promising theoretical lens in helping us understand the complexity of m-banking innovation in its interaction with social processes and structures that affect the institutional properties of household structures in the G2P programme.

Within the research framework, the *social construction* of m-banking is conceived as transition to digital channels for the delivery of mobile-based G2P payments to women beneficiaries. The *enabling and/or constraining effects* of m-banking are linked to usage whilst the *effects on the institutional properties* is analysed through socio-economic change, or financial inclusion in households. If the change is significant, financial inclusion is transformative in providing beneficiaries access to financial services for undertaking economic activities. As beneficiaries' participation in the financial sector may induce socio-economic transformation within households, financial inclusion may lead to poverty graduation. Hence, the theoretical framework grounds these concepts to a theoretical base and signifies the relationship between m-banking innovation and the structural effects on development in the study. Whilst Carmody (2012) contends that poverty alleviation is palliative in nature, it may be argued that poverty graduation results from the structural transformation of household properties that is linked to financial inclusion. Hence, the rationale for using DoT in the study is to evaluate how m-banking innovation enables and/or constrains financial inclusion through the situated use of technology in organisations. Since DoT has been absent as a theoretical lens in prior G2P research, by interpreting the findings through DoT, my study aims to contribute to the ICT4D literature.

Hence, as illustrated earlier in Figure 3.1, DoT locates the following research questions that are mirrored in the conceptual framework in Figure 3.2 (as shown on next page). The framework is built on the theoretical propositions within DoT that verifies the relationship between the empirical concepts to advance the research inquiry.

RQ1) How is the social construction of m-banking design influenced by external and internal institutional forces in the G2P programme?

RQ2) How does m-banking enable and/or constrain programme managers and women beneficiaries?

RQ3) How does m-banking affect the institutional properties of households for structural change, or financial inclusion in G2P households in Pakistan?

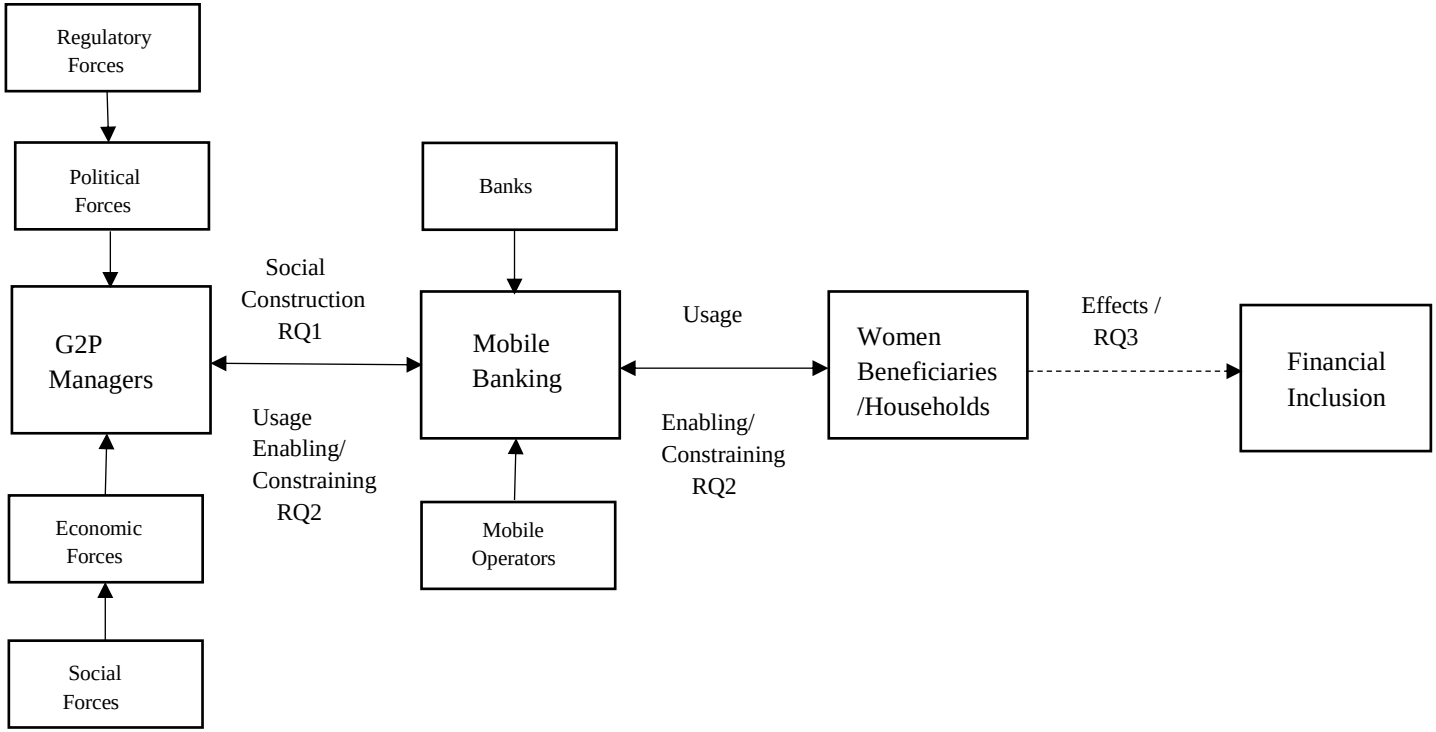

Figure 3.2: Conceptual Model of Mobile Banking for Financial Inclusion

3.5 Summary

In this chapter, I justified the selection of Duality of Technology as the theoretical framework for undertaking research in the study. By aligning with the objectives of the research, the DoT framework embeds the research questions, so is the most appropriate sensitising tool for interpreting the findings. As the theoretical framework is influenced by the philosophical paradigm, it drives the methodology and research design in order to provide a scaffold within which data collection strategies are applied for the social inquiry. Thus, the analytical framework provides coherence to the research process, through the provision of traceable connections between the methodology, research design and conceptual outcomes in the interpretive inquiry. Chapter 4 illustrates how Duality of Technology informs the methodology and choice of methods in this study.

Chapter 4: Methodology and Case Study

4.0 Introduction

The previous chapter elucidated the influence of the ontological and epistemological orientations on the theoretical perspective- Duality of Technology (1992) in my research. In this chapter, I articulate how Crotty's (1998) formulation of the research process- ontology/epistemology, theoretical perspective, methodology, and research methods drives my social research inquiry. Crotty's (1998) scheme illustrates how the theoretical perspective, which in itself, is located within a philosophical paradigm informs the methodology and dictates the nature of research design in the research process. Hence, the nature of social inquiry is a step-wise process that is reflected in the structure of this chapter and illustrated in Figure 4.1.

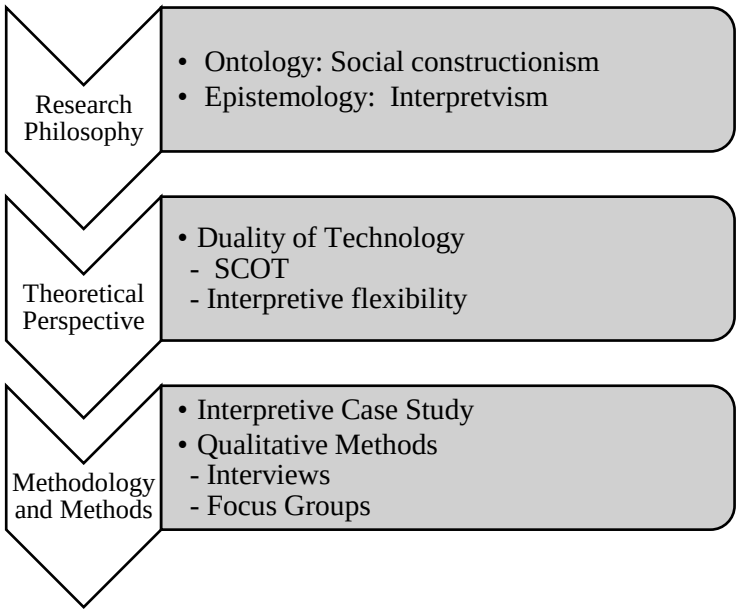

Figure 4.1: Relationship between Research Philosophy, Theoretical Perspective, Methodology and Methods in the Research Inquiry

Source: Crotty (1998)

Before conducting research, it is crucial to first interrogate the philosophical stance about the nature of knowledge in the world, and how researchers interpret the knowledge, truth or social reality. This process of inquiry begins with questions related to the ontological stance, '*what is knowledge?'* and the epistemological stance, '*what is the relationship between knowledge and the researcher?'* seeking answers to which locates the study within the respective philosophical paradigm of inquiry. As mentioned in Chapter 3, the theoretical perspective- Duality of Technology (1992) posits the *social construction of technology* that subscribes to the philosophical stance of *social constructionism* whilst *interpretivism* is related to *interpretive flexibility* in the study. Hence, such a tradition clearly offers a methodological orientation in my study to explain, '*what constitutes knowledge'* and *'how it influences the choice of methods?'* in my research inquiry.

Walsham (1995; 2006) contends that there is still a continuing demand for interpretive research in the IS field, as previous research lacks the vigour, form and practice in social inquiries. Hence, the methodology in my study is an interpretive case study of a government social cash programme- the Benazir Income Support Programme (BISP) in Pakistan that offers a unique exploratory case to study m-banking in the delivery of G2P to poor women beneficiaries. Yin (2009) advocates that theory development within case study research is essential prior to the outset of data collection whether the ensuing case study's purpose is to develop or test theory. Thus, the Duality of Technology is significant to steer the research design through an inductive approach that may help re-construct theory as a significant contribution to knowledge.

Moreover, the chapter explains how the case study is suited to address the research objectives in the social inquiry. The exploration of m-banking issues within the rich context of the case through multiple data sources and methods adds validity, robustness and credibility to the conceptual outcomes. Hence, through an interpretive case study, I seek to capture data in relation to the construction of m-banking that enables and/or constrains social actors in affecting the structural properties of users' households. Nonetheless, the case study from Pakistan aims to contribute to the methodological strand of literature as the case may be representative in similar socio-cultural settings across developing countries.

4.1 Philosophical Paradigms of Inquiry

Philosophical paradigms offer a framework consisting of theories, methods and ways of defining data that explains the relationship between data and theory (Easterby-Smith, Thorpe and Lowe, 1991; Collis and Hussey, 2003). According to Guba (1990), paradigms are the basic set of beliefs that guide action, and as starting points they determine *'what is inquiry?'* and '*how is it practiced?* 'Similarly, Saunders, Lewis and Thornhill (2009) state that philosophy is the belief that an individual has about knowledge and how it is created and developed.

Bryman (2012) also resonates that paradigms are a cluster of beliefs or perspectives that dictate what should be studied, and how the research should be conducted and results be interpreted. Other authors differentiate between paradigms and perspectives and suggest that perspectives are not as unified as paradigms although they may share a common set of methodological assumptions (Denzin and Lincoln, 2011). Hence, paradigms are classified as opposing world views, or belief systems that reflect and guide the decision of researchers in the social inquiry (Tashakkori and Teddlie, 1998).

In relation to my study, I will illustrate the philosophical paradigm that is influential in my research inquiry and permeates into the theoretical framework to the methodological and method levels in my study. The philosophical paradigms are based on the tenets of **ontology** and **epistemology** that are described in the subsequent sections in this chapter.

4.1.1 Ontology - Social Constructionism

Ontology is the science or study of 'being' that is often used synonymously with metaphysics and is one of the oldest branches of philosophy (Holden and Lynch, 2004). Crotty (1998) defined ontology as, '*what constitutes the nature of existence with the structure of social reality*', and hence, it concerns the nature of truth in the research inquiry (Guba, 1990; Creswell, 2007; Saunders, Lewis and Thornhill, 2009). According to Grix (2001), ontology is the starting point for all research after which ones epistemological and methodological positions logically follow in comprising of

worldviews and assumptions within which researchers operate in their quest for new knowledge.

The ontological stance in my research is **social constructionism** as reality is not external to humans, but is a consequence of individuals constructing the world from within their own views or 'consciousness' (Guba and Lincoln, 1994). This assumption is usually reduced to the objectivist *versus* subjectivist debate concerning the reality of the world- that is whether reality imposes itself on an individual's 'consciousness' from outside, as an objective reality (external to the mind), or it is the product of individual 'consciousness' from within as a subjective reality (internal to the mind). Hence, Guba and Lincoln (1994) postulate that reality, as we know it, is constructed inter-subjectively, through meanings and understandings and developed socially and experientially by social actors. However, Crotty (1998) argues that accepting a world existing independently of our consciousness does not imply that meanings exist independently of consciousness.

Moreover, Crotty (1998) distinguished between *social constructivism*- that is- the meaning-making activity of the human mind, and *social constructionism*- '*the collective generation [and transmission] of meaning' (Crotty, 1998, p.58*). Crotty (1998) further reasons that 'there is no meaning without the mind as meaning is not discovered but constructed'. In this study, I subscribe to Crotty's definition of *social constructionism*, as social constructionists, more evidently, '*emphasise the hold culture has in shaping our lives, and the way in which we see and feel things for imparting a definite view of the world' (Crotty, 1998, p.58).*

In the context of my study, m-banking for G2P practices is perceived as a socially constructed reality, not only in practice, as programme managers interact with other social actors whilst depicting the nature of knowledge or truth they created around m-banking practices. Additionally, women beneficiaries receiving G2P payments will ascribe what m-banking means for them in relation to their interactions with G2P practices. Hence, social constructionism in my study posits that m-banking beliefs are socially constructed and defined uniquely by all social actors in the study, as knowledge is constructed around m-banking practices in the case study in Pakistan.

4.1.2 Epistemology - Interpretivism

Epistemology, derived from the Greek words *episteme* (knowledge) and *logos* (reason), conveys the knowledge gathering process, in connection with developing new models, or succeeding other competing models and theories (Grix, 2001). Thus, Grix (2001) defines epistemology as one of the core branches of philosophy related to the theory of knowledge, involving methods, validation, or the possible ways of gaining knowledge of social reality. More simply, it is defined as the relationship between the researcher and '*what is being researched?'* (Creswell, 2012) and constitutes what form of knowledge is acceptable, or legitimate that can be obtained from the world (Saunders, Lewis and Thornhill, 2009; Bryman, 2012). However, other scholars have defined epistemology as the process of thinking, or the relationship between what we know and what we see as researchers (Guba and Lincoln, 1985; Lynham and Webb-Johnson, 2008). Whilst several epistemological beliefs have been reflected in studies, such as positivism, post-positivism, interpretivism, or pragmatism, more recently, feminism and critical inquiry have become popular in research inquiries (Crotty, 1998).

The epistemological stance in my study is **interpretivism** that complements the ontological stance of social constructionism. According to this belief, social reality constructed by social actors is interpreted through the actor's frame of reference within the social setting (Guba and Lincoln, 1985). As social phenomenon is constructed by social actors, they attach various subjective meanings to words, beliefs, attitudes and behaviours through their own personal experiences and perspectives. Interpretivists, hence, interpret their own social world, as Easterby-Smith, Thorpe and Jackson (2008) explain how people make sense of the world, especially, through sharing lived experiences with others. Hence, Denzin and Lincoln (1994) refer to the interpretive researcher as a *bricoleur*- who is '*adept at performing a large number of diverse tasks and is knowledgeable about the many interpretive paradigms that can be brought to any particular problem' (Denzin and Lincoln, 1994, p.2).* Later, they define an interpretive *bricoleur* as someone who understands research as an interactive process and borrows from multiple paradigms using a variety of qualitative strategies (Denzin and Lincoln, 2011). Becker (1998) further maintains,

> The interpretive bricoleur, or a maker of quilts, uses the aesthetic and material tools of his or her craft, deploying whatever strategies, methods or empirical materials are at hand (Becker, 1998, p.2).

Bryman and Bell (2007) further echo that interpretivism attempts to explain why people have different experiences during social interaction and why their experiences continually change. Also, this tradition does not presume that organisational structures, or social relations are objective in nature, but explores how and why individuals, through their socialisation and participation, give it certain status and meaning in the social world. Thus, meaning and intentional descriptions are critical within interpretivist research, not because they reveal subjects' state of mind that can be correlated with external behaviour, but because they are constitutive of those behaviours (Orlikowski and Baroudi, 1991; Orlikowski, 1993). Furthermore, Scott and Usher (1996) state,

> All human actions are meaningful and have to be interpreted and understood within the context of social practices…in order to make sense of the social world, the researcher needs to understand the meanings that form, and are formed by interactive social behaviour (Scott and Usher, 1996, p.18).

In my study, interpretive research is based on the qualitative approach that values subjective meanings, feelings, emotions and behaviour, in relation to the socio-political and cultural context of social actors in the study. It emphasises how social actors construct and reconstruct their perceptions, regarding the m-banking process during their interactions with technology. Therefore, in contrast to quantitative research where the research process is deductive, interpretive research in this study is inductive and open-ended in nature. By interpreting participants' use of words, symbols and actions through their personal narratives and experiences, the m-banking reality is perceived through multiple interpretive frames. The tenet of *interpretive flexibility* is inscribed within interpretivism that examines how m-banking is enacted and appropriated by human agents within their own social realities. Thus, the nature of the inquiry is rather complex, as it is embedded within a specific organisational, and social context that cannot be objectively measured or tested. In fact, m-banking issues need to be understood subjectively through shared meanings and practices that affect social relationships between human agents in their interactions with technology in the G2P programme.

4.1.3 Justification of the Interpretive Inquiry

The theoretical framework in my study- Orlikowski's Duality of Technology (1992) draws upon the social constructionist stance, theorising m-banking innovation to be socially constructed by social actors through an interactive social process. As technology is *socially-embedded* within the organisational and social context from where the innovation emerges and is used, the theoretical perspective negates the objectivist view that m-banking is exterior to designers, and rather reinforces that m-banking is interweaved within the institutional setting. Although this may explain the nature of the m-banking reality from technology designers' perspectives, users' perceptions may differ, so it is essential to interpret both viewpoints in the study.

Hence, m-banking innovation is perceived as a social process influenced by various interpretive schemes that become part of the structural property of m-banking. Within the *technological interpretive frame* in the study, m-banking construction may involve certain discourse, or negotiation across various social groups (G2P managers, bankers, mobile operator and international agency staff), so interpretive research makes logical sense in this research inquiry. Also, the notion of *interpretive flexibility* within DoT, subscribes to the appropriation of m-banking that is interpreted through various users (G2P managers and beneficiaries). Since m-banking *enables* and/or *constrain*s both G2P managers and beneficiaries, the effects on individual users, and on household structures may determine structural change for financial inclusion. Moreover, the effects of m-banking on the institutional properties of households for financial inclusion may afford diverse interpretations for stakeholders in the study. Also, the research questions are open-ended- begin with '*how'*, so invite opinion and discussion that rationalises the inductive approach and the utilisation of qualitative methods in the study. In particularly, since the '*how'* questions are linked to a high level of uncertainty, the answers cannot be objectively measured, but require a thorough in-depth subjective understanding of m-banking as experienced by social agents in the social inquiry.

Therefore, I argue that the philosophical stance in my study steers a qualitative approach that attaches value to individual perceptions constructed by G2P programme managers and beneficiaries in understanding the issues of m-banking in the G2P sector. Given the exploratory nature of the research, the theoretical propositions in the framework are not

tested, but in fact, guide the data collection process in my research inquiry. Hence, in contrast to other objective approaches that rely on processes of categorising and quantifying data, the qualitative study presents a clear picture of the m-banking experience in itself.

Further, the overarching goal of the inductive inquiry is to extend or build upon existing theory whilst discovering new concepts emerging from the findings. As qualitative data recognises the richness of the experiences, intentions, feelings, beliefs, attitudes and interpretations of social actors, these characteristics inform the inductive research approach in this study. Hence, an inductive research inquiry, based on qualitative methods, offers an interpretive lens to unfold new m-banking relationships within their contextual conditions, rather than explaining pre-existing variances using cause-and-effect variables rooted in quantitative models. This philosophical orientation gives primacy to interpretation of the context and underpins the theoretical and conceptual frameworks that link the research goals to the outcomes in my study.

Guba and Lincoln (1982) support interpretive research and assert that although it rules out generalisation in complex systems, as the concept of fitness and adaptability changes over short spaces of time and places, the emphasis on the depth rather than breadth of inquiry brings out richness in qualitative research. However, my research adopts a *moderation generalisation*-that is- the basis of inductive reasoning to what Schutz (1972) calls the 'life world'. To support this claim, Denzin (1983) asserts that, 'every instance of human interaction represents "a slice from the lifeworld" carrying layered meanings which comes in multiples and are often contradictory'. Therefore, individuals are free to attach meanings to the same actions or circumstances under similar settings. As a result, there is an inherent indeterminateness in the life world which leads to variability that allows the possibility of generalisations to be made from a specific situation to the broader. Hence, the research understanding may be generalised across other environments whilst taking note of the specific particularities when applying the understanding from this study to the new context (Walsham, 1993; 1995).

In this light, an interpretive approach favours theoretical credibility, transferability, dependability, conformability and trustworthiness in the conceptual outcomes across similar contexts and settings (Guba and Lincoln, 1985; Bryman, 2012). Further, while interpretive inquiry seeks for interpretive validity in the research process- as culture,

ideology, gender and language pose concerns for authenticity and contextual understanding, the use of multiple data sources and multi-methods may help establish validity (Bryman, 2006; Lambert and Loiselle, 2008). Hence, my study seeks to capture the complexity and depth of social reality in a more humanistic style of research that positivist research fails to embody.

Nonetheless, it is necessary to clarify that my research also departs from the premises of the post-positivist paradigm, whereby, researchers posit conflict or contradiction as endemic to social systems whilst interpreting the objective reality. By reflecting on how social order is maintained through negotiation and alternative realities, interpretivism, in my study seeks to offer explanations rather than solve or seek universal solutions. However, as meanings are formed, transferred, used and negotiated over time, the interpretation of reality may also shift according to changing circumstances or contextual factors. Finally, as interpretive research gives attention to voice, or speaks for those who do not have access to the corridors of knowledge or the academic disciplines (Lincoln, 1995), LeCompte, Preissle and Tesch (1993) argue that it is the responsibility of interpretive research to 'seek out the silenced' because their perspectives are often counter-hegemonic. Also, this view of voice, as resistance against silence, as resistance to disengagement, and as resistance to marginalisation calls for passionate participation, as a hallmark for achieving quality in interpretive research and reflects upon a committed stance towards an openness to multiple voices and interpretations (Lincoln, 1997).

4.1.4 Limitations of the Interpretive Research Inquiry

Although interpretive research motivates investigations into how humans enact a shared social reality, through understanding human behaviour and intentions of social actors to capture complex dynamic phenomenon that are context and time dependent, this philosophy is also subject to criticism as it may lack scientific rigour (Burrell and Morgan, 1979; Fay, 1987; Gibbons, 1987). Also, the paradigm fails to explain the 'unintended' consequences of action which by definition cannot be explained with reference to the intentions of the actors concerned, but significantly shape the nature of inquiry (Fay, 1987). Thus, Giddens (1979) on agency in structuration theory argues that an unintended consequence of human action is that which reinforces the actions, roles,

beliefs and relative power of members in society, in order to sustain the structures and practices of the group over time. However, my study attempts to address this criticism by also taking into account the unintended consequences, or factors affecting social interactions between technology and actors. The framework applied in the study addresses how human practices effect on the institutional properties of structures for change over time. However, since interpretive research is time and context bound, the results from my study may not remain valid or credible over time. This resonates with Blaike (2000) who maintained that all understanding is confined to the social context at a given time that requires further investigation across different environments over time. This may be applicable to this study as participants experiences are situated in the context at a specific time, so their narratives may change, and hence, may not be replicable every time the study is conducted. Hence, this calls for longitudinal research to be conducted under similar research settings in future.

Other researchers contend that the interpretive philosophy forsakes the structural conflicts within society and organisations, and hence, ignores the contradictions that may be endemic to social systems (Fay, 1987). Although my study highlights certain issues, the aim will be to interpret them instead of offering complete solutions. Also, the interpretive paradigm overlooks those situations where participants' accounts of actions and intentions are inconsistent with their actual behaviour, so neglects how social actors may be blinkered in their self-understanding. Finally, the interpretivist philosophy fails to account for historical change in understanding how a particular social order comes into being and how it will evolve over time. However, in my study this may not be a relevant point to consider since it takes many years for historical practices to become reified in social structures.

4.2 Methodology - Case Study

Within the research process, the methodology is informed from the research philosophy and is linked to the theoretical perspective to arrive at the research outcomes (Crotty, 1998). It consists of the processes to seek new knowledge from the principles of our inquiry (Shwandt, 2007), and is the strategy or plan of action that informs our research design for the desired outcomes (Crotty, 1998). Whilst some scholars suggest that

methodology is the hermeneutic, dialectic discussion between the researcher and the participants, individual constructions are elicited and refined hermeneutically, and compared and contrasted dialectically with the aim to generate constructions on which there is substantial consensus (Geertz, 1973; Guba and Lincoln, 1985; Guba, 1990; 1996; Angen, 2000). Therefore, the research strategy, or methodology dictates the major direction of the research and constitutes one of the important decisions made by the researcher in the research inquiry (Pathirage, et al., 2008; Creswell, 2012).

According to Yin (1994), various methodologies offer a different way of collecting and analysing evidence following their own logic. He further reasons that the choice of strategy is related to the nature of the research question(s), the degree of control over observed events, and whether the focus is on contemporary or historical events. Although there are different methodologies applied in IS research, the case study, as a methodology, is the most suited that meets Yin's selection criteria in this study. Notably, the research questions in my study are *exploratory* in nature, so the case study is classified as being *exploratory* as new concepts be discovered (Yin, 2009). Also, the empirical aspect of my research relates to investigating the relationships in the theoretical framework that explores the complexity of m-banking issues in the G2P sector in its most 'natural setting' that is inseparable from the social and organisational contexts. The context of m-banking relates to both G2P programme designers' organisational context, in addition to G2P recipients' context of use. Any attempt to control events is thus precluded that underpins the choice for selecting the case study, as a strategy, in my research. Furthermore, the primary focus of the research are on the contemporary events that unfold within the organisational and social contexts to effect the institutional properties of households in Pakistan. For these reasons, my argument conforms to Yin's (1994) recommendations of the appropriateness of the case study as a methodology in my interpretive research inquiry.

Yin (2009) further refers to the case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Hence, it is not always easy to distinguish between the *phenomenon* and the *context* in real-life situations. Yin (2009) also suggests that the case study should explore many variables of interest, rely on multiple sources of evidence, and be based on the prior development of theoretical

propositions to guide the collection of data. In my study, these claims will provide further rationale in selecting case study research. Moreover, Yin (1994) maintains that the case study should be seen as a comprehensive strategy in incorporating specific data collection and analysis approaches to investigate the phenomenon in real-life contexts. This classification contrasts to definitions that ascribe case study, as a data collection method, in which in-depth descriptive information about specific entities or cases is collected, organised, interpreted and presented in a narrative format (Marrelli, 2007).

Although case studies can be qualitative, quantitative, or both, my case study is qualitative drawing on the interpretive tradition. This is further supported by Yin (1994) who advocates the use of case studies for theory building whilst undertaking exploratory, descriptive, explanatory, and illustrative meta-evaluation research. Other authors also echo Yin (1994) in identifying the role of case study methodologies in theory building based on the inductive approach that utilises qualitative methods (Cassell and Symon, 2004; Ghauri and Grønhaug, 2005). Yin (2009) further argues that the case study is used in many situations to contribute to our knowledge of individual, group, organisational, social, political and related phenomena that applies to the m-banking context in this study.

Stake's (1995) definition of case study, 'a study of the particularity and complexity of the single case, coming to understand its activity within important circumstances', emphasises a disciplined qualitative inquiry within a single case. Similarly, Merriam (1998) also situates the case study within the interpretivist tradition, making reference to the qualitative case study as an intensive, holistic description and analysis of a single entity, phenomenon or social unit. Further, Cassell and Symon's (2004) description of case study research accentuates the importance of the context as the methodology consists of a detailed investigation for which data is often collected over a period of time within a specific context.

4.2.1 Case Study Design - Single Case Study

Research design is defined as a logic that connects theory with practice and is an essential process within the research strategy. According to Yin (2003), it is '*a logical plan for*

getting from "here" to "there", where "here" may be defined as the initial set of questions to be answered, and "there" is some set of conclusions (answers) about those questions'. Therefore, it has two purposes 1) to guide the collection of data- to go from theory to empirical observation, and 2) to guide the analysis of data- to go from observation to theory. Hence, a good research design ensures that the *right kind* of evidence is collected and processed in the *right way* to meet the research goals.

Whilst the *unit of analysis* is m-banking in the study, Yin (2009) identifies different units of analysis- holistic single case, embedded single case with multiple units of analysis, multiple case with multiple units of analysis, or multiple case with one unit of analysis. This implies the need for a decision, prior to data collection, on whether a single case or multiple cases will explore the issues within a bounded system (Yin, 2009; Creswell, 2012). Hence, the rationale for selecting a single case in my study is because the case I have selected is *instrumental* (Yin, 2003; Stake, 2005) and is chosen to address the specific m-banking issues in relation to the research questions in my study. The Benazir Income Support Programme (BISP) in Pakistan presents a single unique case for investigating how m-banking was designed to deliver G2P payments to poor women beneficiaries, its usage and effects on households. Also, it is novel in the sense that it is the primary and largest social cash programme in Pakistan and South Asia that implemented m-banking for transferring G2P payments to poor women in selected pilot districts of the country. So this single case was selected because it would provide rich in-depth data in line with the research objectives of my study.

The empirical part of this case study concerns the way in which technology, or m-banking is constructed by G2P programme managers for delivering G2P payments, how it enables and/or constrains both managers and users at the individual levels, and its effect on structures at the organisational (household) level. Hence, the *unit of analysis* is single- that is- m-banking in the BISP case study. However, Yin (2009) makes a distinction between the *unit of analysis* and the *unit of data collection*. In my study, there are several units of data collection. These comprise of individual social actors- G2P programme managers at BISP and m-banking users, or women beneficiaries within their household context. However, I must clarify that the *primary units of data collection* are women users and BISP managers- to whom the research questions are directly aimed towards. Other participants comprise of bankers, mobile operator officials and

international agency staff- who form the *secondary units* of data collection. Nonetheless, this is inevitable whilst studying m-banking within a diverse sector, as by disregarding other secondary data sources, who play an instrumental role in the case, may question the credibility and validity of the evidence collected in the study. Hence, this argument supports the fact that data collection from case study is extensive and rich in capturing perspectives from multiple actors (Creswell, 2012) in the m-banking innovation process. According to Yin's (2009) classification, my study is a single case as there is only one unit of analysis, m-banking, although there are several units of data collection that provide an interpretation on the m-banking issues explored in the case study.

A central motivation behind this research was to get behind the building blocks of m-banking issues and obtain deeper insights with clear measures of data from all actors in the m-banking ecosystem. Although the secondary units of data collection feed into the primary units, it is mandatory to ensure that focus is not lost from the primary unit of analysis and the primary units of data collection in this study. Moreover, the case of the Benazir Income Support Programme is tightly bounded (Yin, 2009), in the sense that it is restricted by sphere of activity with focus on the specific research questions, bounded by location to participants residing in Islamabad and Rawalpindi in Pakistan, and bounded by time within the data collection period in this study.

4.2.2 Rationale for the Case Study Methodology

In this section, I have provided a rationale for using the case study as a methodology based on upon Yin's (2009) classification as highlighted in the earlier section.

Investigation of Contemporary Phenomenon in Real Life Context

An *exploratory* case study design helps to investigate when the problem is not clearly defined, or its real scope is not yet clear, so determines the best research design, data collection and selection method (Yin, 2009). As there is little known about the specific G2P context, the nature of my case study is *exploratory*. Hence, the case study will provide deeper insights on m-banking issues through a platform to address the research questions. Yin (2009) states that case studies investigate the phenomena, as they occur in their natural setting, and often where they cannot be separated from their natural

context. Hence, the case study investigates a real life phenomenon, m-banking designed to disburse G2P payments in the organisational and social contexts of designers and users. It also highlights the influence of the environmental factors that affect the phenomena under study. Therefore, the case study methodology aims to extend our scope of understanding by linking m-banking innovation to study the outcomes for development since prior research in this area is deficient. Further, the theoretical framework deployed for studying the relationships between m-banking, social actors and institutions incorporates the contextual forces for examining m-banking innovation in the G2P sector in Pakistan.

Theoretical Propositions to Guide Data

As Yin (2009) highlights, case studies rely on theoretical propositions at the outset of data collection. In my study, the theoretical constructs in Orlikowski's Duality of Technology (1992) cultivate the research questions, and act as a sensitising device to guide the data collection process in the research inquiry. Hence, the use of case study as a strategy for data collection benefits from the prior development of theoretical propositions in directing the researcher from where to collect the data. Thus, it helps the researcher to focus on specific data units, and identifies the methods for the collection of evidence. The framework is primarily based concepts pertaining to the social construction of m-banking, its usage, and how m-banking affects the institutional properties of households. Further, the case study research, based on an inductive approach, may contribute towards phases of theory development, and in doing so may combine other theoretical constructs in the theoretical framework.

Multiple Sources of Data and Methods

Yin (2009) discusses the case study methodology in relation to the process of data collection and analysis in the research inquiry. Because case studies are typically concerned with complex phenomena, the involvement of many variables, typically, relies on multiple sources of evidence for integrating the data for depth and richness of the case (Creswell, 2012). In addition, data is corroborated from multiple methods that help in *data triangulation* for greater validity in qualitative research (Bryman, 2006; Lambert and Loiselle, 2008). However, from a constructionist ontology, I argue that the

triangulation of data from different data sources to achieve methodological rigour (Yin, 2003) was not relevant for this research, as it is more suited to an idealist position. Therefore, keeping in mind the specificities of social constructionism and interpretivist philosophies in this research, data integration may perhaps be more apposite in converging data from various methods for enhanced data richness and depth of inquiry (Lambert and Loiselle, 2008).

Hence, case study research explores individuals and organisations through complex interventions, relationships, communities or programs (Yin, 2009). According to Cornford and Smithson (1996), the great strength of the case study lies in the richness of data that can be obtained by multiple means, typically, when researchers do not restrict themselves to a single situation as case studies embed multiple perspectives rooted in a specific context. Furthermore, case study research may also be generalised, as Bulmer (1993) reasons that the evidence obtained may be applied to cross-border and cross-cultural settings under similar research conditions.

4.3 The Case - Benazir Income Support Programme (BISP)

Yin (2009) states that case study research needs to identify *'what the case is?'*, as the case may be a person, an organisation, a programme, a process or even an object. In this study, the case is a government programme- the Benazir Income Support Programme (BISP) as well as the name of the organisation that implements the programme in Pakistan. Figure 4.2 illustrates the Head Office of the organisation- BISP located in Islamabad- Pakistan.

Figure 4.2: Picture of Head Office of Benazir Income Support Programme in Islamabad, Pakistan

4.3.1 Selection of the Case

The Benazir Income Support Programme has been selected in my study as a case to study m-banking in the G2P sector in Pakistan. As authors suggest, case study research is ideal when a holistic in-depth investigation is required on a specific issue, so the case does not lend itself to generalisation or prediction, but in fact enables us to understand the complex relationships between the phenomena and the variables (Yin, 2009). My research study explores the role of m-banking in the programme, especially, pertaining to its construction and design, how it was enacted by G2P managers and users and its effects on households for financial inclusion in the study.

Amongst other social cash transfer programmes in Pakistan, including the Citizen Damage Compensation Programme (CDCP), Bait-ul-Mal and Zakat Programme that have limited coverage in extending welfare payments to poor citizens, the Benazir Income Support Programme (BISP) represents the largest programme- in terms of its number of beneficiaries and volume of payments. The rationale for selecting this programme over others is because it presents a unique instrumental case in terms of the focus on technology, or mobile phones in exploring the issues faced by BISP managers and women users to access government welfare payments. Hence, the case provides an

interesting opportunity to study how and why m-banking was designed into the programme and its implications on financial inclusion in beneficiaries' households. Therefore, BISP managers', women beneficiaries' and m-banking providers' perspectives are critical in understanding m-banking innovation and its consequences on local development in G2P communities. Whilst the gaps in the literature presented earlier (Chapter 2) highlighted that social cash programmes in other countries mainly deployed card-based solutions, the implementation of m-banking pilots in the specific regions in Pakistan, justifies the selection of this programme to make contribution to the ICT4D literature. Also, as BISP targets women only, the study seeks to address previous concerns by highlighting the experiences of female m-banking users. Moreover, the focus on technology, or m-banking practices aims to establish the link with financial inclusion objectives in the G2P sector. Hence, the BISP case study is the most suited and representative, as a specific illustration, to answer the research questions in this study. Moreover, the case study is significant at a global level with the involvement of international donor agencies that places it under close scrutiny and in the limelight for discussion at international forums.

4.3.2 Access to the BISP Case

The Benazir Income Support Programme Head Office is located in Islamabad- Pakistan. Initial contact with the organisation was made through a personal contact- via email- seeking for permission to conduct the study. My contact presented my request letter to the Chairman of BISP, along with the Participant Information Sheet (PIS) (Appendix 1) and Participant Consent Form (Appendix 2) that clearly and honestly outlined the purpose of my research, including protocols, for establishing an open, transparent relationship for conducting research at BISP. The information sheet introduced myself and my supervisor's affiliation to the University, briefly outlined the objectives of the study, and participants who would be recruited for participating in the interviews and focus groups. Since BISP was a government organisation, approaching the organisation through a personal contact, helped me gain easy and quick access. This is particularly important where bureaucracy exists, so in such situations, it helped me by-pass some of the lengthy procedures that are usually involved in getting access to key members for undertaking research.

As part of the research process, at the outset of research, instituting personal trust was primary and critical in establishing and nurturing a relationship with BISP. Hence, in order to allay any suspicions or concerns arising from my study at the very start, it was pertinent to highlight the research ethics for my study (Appendix 1). This included the ethical procedures, regarding how the data would be sought, used and shared, whilst maintaining the confidentiality, integrity and privacy of the research participants during data collection and dissemination of findings. It was clarified that no participant would be interviewed without his/her consent that would be recorded on the Participation Consent Form (Appendix 2). After being granted permission to collect data from BISP, I shared my travel schedule and research plan with my contact who provided assurance of introducing me to a gatekeeper in facilitating my access to BISP officials. I was also promised that a Director at the head office would introduce me to the field officer at the Tarlai Field Office in Islamabad that would enable me to arrange interviews and focus groups with women beneficiaries. Hence, the general understanding was that the data collection schedule would be organised by myself once I was physically present in Pakistan.

Upon visiting the BISP Head Office in Islamabad- Pakistan, a meeting was scheduled with the Chairman's Principal Assistant who acted as the gate keeper, and had already been briefed about my visit. After discussing my data collection plan, I was introduced to a senior manager who from that point onwards became my point of reference in the organisation. He gave me access to secondary information, sourced through documents and official publications, and provided a directory of BISP officials outlining their job titles for scheduling interviews. Another Director coordinated the logistics of my visit to the Tarlai Field Office in Islamabad, where the local field officer introduced me to beneficiaries. The entire staff at BISP were extremely supportive and helpful during my data collection in Pakistan.

In Section 4.5 of the chapter, Table 4.2 presents a list of participants who were interviewed in the study.

4.3.3 Background and Objectives of BISP

In Pakistan, where a significant proportion of the population lives at subsistence level in acute poverty, primarily in rural areas, the country faces immense challenges in terms of poverty. As the majority of poor are unskilled and work in the informal sector, employment opportunities are scarce, since they lack in all forms of basic, human, physical and productive assets. Under these conditions, poverty is often defined as the inability to afford consumption expenditure necessary to meet the nutritional requirements of individuals (United Nations Human Development Report, 2013). According to the Human Development Report (2013), 21 percent of the households in Pakistan are falling below the poverty line, 27.4 percent suffer from severe poverty, whilst 11 percent are vulnerable to poverty. However, these figures are conservative measures of income poverty in displaying the percentage of population living below USD $1.25 per day. By contrast, UNDPs Multidimensional Poverty Index (MPI) calculates deprivations in health, education and living standard of poor households in Pakistan. According to recent figures, 49.4 percent of the population is living in multidimensional poverty (total headcount) whereas 53.4 percent records the intensity of the deprivation. These indicators track the developmental progress against the Millennium Development Goal (MDGs) targets set for reducing poverty in Pakistan (United Nations Human Development Report, 2013).

Against this background, Pakistan is one of the developing countries where the Constitution guarantees the social security of its citizens. Clauses (c) and (d) of Article 38 on the 'Promotion of Social and Economic Well-being of the People in the Constitution of Pakistan' (2010) signifies,

> The State shall provide for all persons employed in the service of Pakistan, or otherwise, social security by compulsory social insurance or other means; and provide basic necessities of life, such as food, clothing, housing, education and medical relief, for all such citizens, irrespective of sex, caste, creed or race, who are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment (Constitution of Pakistan, 2010).

Whether this commitment is fulfilled or not is a separate debate. However, recognising the need to modernise its social protection system, the Government of Pakistan

developed and adopted a National Social Protection Strategy (World Bank, 2013). Consistent with the Poverty Reduction Strategy and Vision 2030, the strategy provides a sectoral framework to address poverty alleviation. As a key element in this strategy, the Government introduced a national safety net programme- the Benazir Income Support Programme (BISP) - a social cash programme that provided basic income support to a significant proportion of the poorest population in Pakistan.

Launched in 2008 by the former Pakistan People's Party Government, the Benazir Income Support Programme (BISP) is the first ever comprehensive, universal, objective, and transparent social safety programme initiated by the Government of Pakistan. It is the flagship programme- one of the major instruments of the Pakistani Government to achieve the targets set by the United Nations' Millennium Development Goals (MDGs) to reduce chronic malnutrition in impoverished communities. The concept of BISP is derived from the widely acclaimed developmental theories of social protection that are ubiquitously implemented in both the developing and developed world (BISP, 2014).

The Programme was established through an Act of Parliament, and as an organisation, works under the executive patronage of the Prime Minister, while the President of Pakistan is the Chief Patron of the programme. BISP has nationwide presence with the Head Office, located in the Federal Capital- Islamabad, and 6 regional offices at the Provincial Capitals, including Azad Jammu Kashmir (AJK) and Gilgit Baltistan (GB). There are 31 divisional offices with around 2000 staff working in the field or regional branches across the country. The organisation is headed by a Board, with a nominated Chairperson, and an Executive Committee comprising of a Secretary, and Cabinet Members from the finance, economic and foreign affair ministries, in addition to other Non-Government Members (BISP, 2014).

The primary objective of the programme is to cushion the effects of chronic poverty and mitigate the impacts of rampant inflation of food and fuel prices on poor households. Over the years, it has successively become the country's main safety net programme in providing monthly social cash transfers of USD[9] $14.3 per month (Pakistani Rupees-PKR. 1500) to around 5.3 million[10] low-income households (BISP, 2014). However, the

[9] Based on the exchange rate in February 2016: 1USD = 104.91 PKR

[10] Number of BISP beneficiaries as on March 2014 recorded in the Brief on BISP- A Social Safety Net: Government of Pakistan

payments are disbursed to beneficiaries on a quarterly basis, amounting to USD $43 (PKR. 4500) per quarter. BISP supplements households with incomes below USD $57 (PKR. 6000) monthly. As the programme targets women as G2P recipients, or as household heads, another objective of BISP is to empower women. This is because women beneficiaries, living in abject poverty belong to the most under-privileged and vulnerable sections of society. Furthermore, economic deprivation, regardless of political affinity, racial identity, geographical location, and religious beliefs are other criteria that identify eligible beneficiaries registered with BISP. The programme covers beneficiaries residing in all provinces of the country- Sindh, Punjab, Balochistan and Khyber Pakhtoonkhwa, including other regions, Federally Administered Tribal Areas (FATA), Azad Jammu and Kashmir (AJK), Gilgit Baltistan (GB) and Islamabad Capital Territory (BISP, 2014).

For long-term poverty graduation, under the BISP banner, there are four closely associated and complementary schemes- ***Waseela Haq***- an annual interest free loan programme, ***Waseela Rozgar***- a vocational and training initiative provided to selected beneficiaries, or nominees to enhance their skills and economic independence, ***Waseela Sehat***- for health and life insurance, and ***Waseela Taleem*** that promotes primary education, but is limited to only five districts in Pakistan (BISP, 2014). However, it is important to note that my study does not cover these schemes and is restricted to *unconditional* G2P cash transfers only. This is because the unit of analysis in this study is m-banking and under the above schemes, beneficiaries do not receive payments- via m-banking, so analysis of these schemes lie outside the current scope in this thesis.

Figure 4.3 illustrates the route for financial inclusion, through the disbursement of G2P payments, via m-banking in the BISP programme.

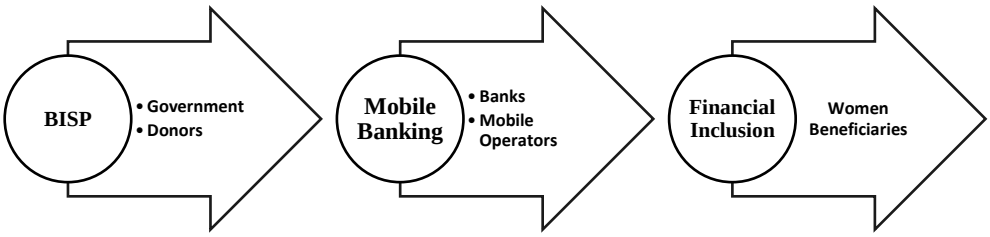

Figure 4.3: Mobile Banking Process for Delivering G2P Payments in BISP Case Study

4.3.4 Targeting and Delivery of G2P Payments

Initially, at the start of the programme in July 2008, there was absence of reliable data to help identify the underprivileged and vulnerable households in the country. Given this issue, the task of targeting poor households was entrusted to parliamentarians, and classified as Phase 1 of the targeting in BISP. Equal number of application forms were provided to parliamentarians (800 forms to each member of the National Assembly and Senate, and 1000 forms to each member of Provincial Assemblies) irrespective of party affiliation and eligibility criteria, against which the needy and underprivileged in the respective constituencies were identified as eligible beneficiaries. The forms were verified through the National Database and Registration Authority (NADRA) database and 2.2 million families, initially, received cash transfers (BISP, 2014).

Over time, in 2010, a transition in terms of objective and scientific mode of targeting was introduced in Phase 2 of the targeting. The Poverty Score Card Survey- a poverty measure tool- was introduced as the first of its kind in South Asia. It was designed with financial and technical support from the World Bank and Department for International Development (DFID), UK in collaboration with NADRA. Based on a Proxy Means Test (PMT), the poverty score card determined the welfare status of households on a scale of 0 to 100- relating to household size, asset ownership, and education status of household members. The poverty score card objectively identified 7.7 million households that were living below the cut off score of 16.17[11] and were the 'poorest of the poor'. The survey

[11] Cut-off score of 16.17 is not representing the poverty line, but was decided on the basis of available fiscal space.

resulted in the creation of a large and reliable national registry of the socio-economic status of almost 27 million households across Pakistan. Global Positioning System (GPS) readings were recorded for households to increase the survey's accuracy, objectivity, and replicability that would also help devise emergency strategies for natural disasters in future (BISP, 2014).

The second transition in the programme was related to payment mechanisms or tools. BISP, in the initial phase, delivered cash transfers using Pakistan Post due to its extensive network across Pakistan. But later in 2010, after the implementation of the poverty score card, BISP shifted to innovative payment platforms, embracing technology-based solutions to improve the efficiency and transparency of the delivery of G2P payments to beneficiaries. This included NADRA customised smart cards and mobile phone banking introduced on a pilot basis in total nine districts of the country. However, m-banking was confined to five regions- Islamabad, Rawalpindi, Larkana, Layyah, and Battagram. In other regions, BISP rolled-out the Benazir Debit Card (BDC) across the country. According to the figures in March 2014, approximately, 94 percent [12] of women beneficiaries received digital G2P payments through technology-enabled innovative payment mechanisms. BISP's operational design, separation of function, and innovative technology-based mechanism inspired other developing countries like Bangladesh, India, Ghana, Mongolia, Cambodia and Nepal to initiate similar programmes to improve the livelihoods of their millions of poor (BISP, 2014).

4.3.5 Funding and International Actors

BISP is primarily funded by the Government of Pakistan, and since its launch in 2008, has increased its annual disbursement from PKR. 16 billion (USD $152,664,800) in the financial year (FY) 2008-2009 to over PKR. 43 billion (USD $410, 286,650) in FY 2012-13. This was expected to cross PKR. 70 billion (USD $667,908,500) by the end of FY 2013-15. Further, BISP also receives unprecedented support from multilateral and bilateral international donor agencies, such as, World Bank, DFID, United States Agency for International Development (USAID) and Asian Development Bank (ADB), who all

[12] This percentage was recorded in the BISP Report in March 2014 when data was collected.

have appraised its efforts and performance in the social security sector. Moreover, BISP has achieved international recognition due to its stringent targeting mechanism, innovative design and transparent systems related to the disbursement of welfare payments in Pakistan (BISP, 2014). The role of international donor stakeholders in their contributions to BISP is briefly summarised.

World Bank: The World Bank's role in BISP extends substantially beyond development finance, and since the inception of the programme, the bank has generously provided technical and monetary assistance on different aspects. The International Development Association (IDA) provided a credit of USD $60 million to BISP for the Pakistan Social Safety Net Technical Assistance Project till 2016. This project supported the design and construction of the poverty score card, survey of all households across Pakistan and is related to G2P transfer activities. In addition, BISP has received a funding of USD $150 million from the World Bank to support the co-responsibility cash transfer scheme- *Waseela Taleem*- for the promotion of primary education in the country (BISP, 2014).

DFID: The Department for International Development- UK has supported BISP's primary activities- test phase targeting survey, process evaluation and spot checks through the Trust Fund managed by the World Bank. Recently, it has extended a grant of USD $430 million for the *Waseela Taleem* scheme in promoting the enrolment of children for primary education in beneficiaries' households (BISP, 2014).

USAID: The United States Agency for International Development provided a grant of USD $85 million, as budgetary support, for payment of cash transfers to beneficiaries identified through the poverty score card. Subsequently, an additional grant of USD $75 million was under negotiation with the Government (BISP, 2014).

Asian Development Bank (ADB): The Asian Development Bank has provided an amount of USD $150 million in June 2009 to the Ministry of Finance under the Accelerated Economic Transformation Programme (AETP), specifically, to be used by BISP to make digital payments to eligible beneficiaries registered with the programme. The Bank has committed another USD $430 million for other Social Protection Development Projects in Pakistan (BISP, 2014).

4.3.6 Financial Institutions

Although the government has enabled regulators to set up the infrastructure for branchless banking players, and pays banks regular commission fees, in lieu of distributing welfare payments to beneficiaries, financial institutions capitalise on cost-effective delivery channels to achieve economies of scale through large scale payments (Pickens, Porteous and Rotman, 2009). Moreover, G2P payments provides financial institutions the opportunity to cross-sell other financial products, such as savings, credit and insurance in order to fortify their business case (Pickens, Porteous and Rotman, 2009; Porteous, 2012). Nonetheless, authors have argued that the business opportunity for financial providers needs to be understood better, so that policy makers and social program managers can structure incentives in ways that produce sustainable solutions (Pickens, Porteous and Rotman, 2009).

Moreover, evidence from some of the biggest social cash programmes in the world reported that the business case for financial providers is mostly dependent on government fees, rather than cashing on the opportunity to cross-sell new products to a new client base. Notably, beneficiaries, even when presented with the opportunity, preferred not to save any portion of their benefit, or take advantage of other financial services from banks (Zimmerman and Rotman, 2012). Hence, the frequency in disbursing G2P payments accelerates scale for financial institutions in generating a considerable fee income from providers (Porteous, 2012; Rotman, Kumar and Parada, 2013). As verified by Porteous (2012),

> The business case for undertaking a range of social cash transfer payments rests less on the payments themselves, than on the fact that the revenues received and shared with agents have created critical mass in this new digital channel in a shorter time frame that would otherwise be possible (Porteous, 2012).

In the study, BISP originally allocated payments to six banks that covered over 5 million beneficiaries as summarised in Table 4.1. The table also illustrates how various digital tools were deployed by BISP in different regions through which G2P beneficiaries received their payments.

Name of Bank	Mobile Operators	No. of Beneficiaries in relation to Digital Tool		Total No. of Beneficiaries	District/ Region
		Smart/ Debit Cards	M-Banking		
United Bank Limited (UBL)	Ufone	1,000,000	60,000	1.6 million	Layyah- South Punjab
Habib Bank Limited (HBL)	Ufone	1,000,000	30,000	1.3 million	Larkana- Sindh
Tameer Bank	Telenor-Easypaisa	990,000	10,000	1 million	Battagram-Khyber Pakhtoonkhwa
Summit Bank	Ufone	N/A	50,000	50,000	Rawalpindi and Islamabad-Federal Territory
Alfalah Bank	N/A	1,200,000	N/A	1.2 million	South Punjab Districts
Sindh Bank	N/A	230,000	N/A	230,000	Sindh Districts

Table 4.1: Case Load of Banks (Beneficiaries) in relation to Digital Tools Used per Region in March 2014[13]

Source: Rotman, Kumar and Parada (2013) and Case Notes (Appendix 4)

United Bank Limited (UBL): United Bank Limited is the second largest private bank in Pakistan, and was allocated the largest case load, around 1.6 million beneficiaries, residing in South Punjab. UBL Omni was launched in 2010, as a commercial telco-agnostic[14] service, originally set up for BISP beneficiaries to receive G2P payments, and other customers to make over-the-counter (OTC) bill payments and money transfers- via a network of agents, known as *Omni-Dukaans*. However, the G2P business was found to be more critical in enabling the bank to develop its branchless banking infrastructure and revenue structure for rural agents. Hence, collaboration with BISP, helped the bank

[13] These numbers relate to the data collected in March 2014.
[14] Defined as a bank that offers banking services, via a branchless account, to any person with a mobile phone on any network- provided that the customer's operator can provide an SMS pipe with adequate speed for processing transactions, or through their own independent agents.

expand its agent network, especially in areas, where there were limited bank branches. For the deployment of m-banking in Layyah, UBL partnered with the mobile operator, Ufone, and the bank-led model enabled women beneficiaries to cash-out their grants at *Omni-Dukaans*. Moreover, there was evidence that the presence of *Omni-Dukaans* spurred some degree of economic activity in the regions where they were located (Rotman, Kumar and Parada, 2013).

Habib Bank Limited (HBL): Habib Bank is the largest commercial private bank in Pakistan which collaborated with BISP for disbursing G2P payments to around 1.3 million beneficiaries in Sindh. Before the m-banking pilots, beneficiaries withdrew G2P payments using smart cards from approximately 600 point-of-sale (POS) devices or 1,462 bank branches in the region. The smart cards contained beneficiaries' unique identifier information, such as fingerprints, and enabled those beneficiaries to receive payments where mobile coverage was weak. Later, the bank partnered with Ufone and introduced m-banking in Larkana, so that beneficiaries started receiving mobile-based G2P payments (Rotman, Kumar and Parada, 2013).

Tameer Microfinance Bank: Tameer Microfinance Bank opened regular accounts for approximately one million BISP beneficiaries, of which around 10,000, were mobile accounts for receiving G2P payments. The bank had partnered with Telenor in 2009, under the mobile operator-led model, to launch Easypaisa- the pioneer of mobile money in the country. Hence, BISP's collaboration with Telenor increased financial outreach for beneficiaries, residing in Battagram, who withdrew their G2P payments either through 1LINK ATMs, or Easypaisa agents in the region (Rotman, Kumar and Parada, 2013).

Summit Bank: Summit Bank, in partnership with Ufone, facilitated around 50,000 m-banking beneficiaries to cash-out G2P payments either at Summit Bank branches, or Ufone franchises, located in the Federal Area of Islamabad and Rawalpindi. The bank-led model had limited agent footprint in certain areas, so many beneficiaries relied on the bank's branch network, and Ufone franchises for cashing-in/cashing-out mobile payments in the region (Rotman, Kumar and Parada, 2013).

***Bank Alfalah*:** The Bank offered virtual accounts to beneficiaries whilst issuing a 1LINK branded card, as opposed to Visa or MasterCard, to around 1.2 million beneficiaries

residing in Southern Punjab. As a result, beneficiaries were presented with limited banking opportunities through card payment channels. Further, evidence shows that approximately 63 percent of beneficiaries received payments at ATMs whilst the remaining 37 percent were paid through agents (Rotman, Kumar and Parada, 2013).

Sindh Bank: Sindh bank was allocated a business case, comprising of approximately 230,000 beneficiaries, residing in towns and villages in rural Sindh. The beneficiaries were provided with debit cards for cashing-out their grants after the phase out of smart cards in the region (Rotman, Kumar and Parada, 2013).

4.3.7 Government Enablers

The regulatory environment in Pakistan is very conducive for the growth of mobile financial services and Pakistan's regulations has encouraged government G2P programmes to leverage on branchless banking channels, including m-banking, to support the G2P sector in Pakistan.

State Bank of Pakistan (SBP)

Studies mark that the Consultative Group to Assist the Poor (CGAP) has a long history of working with the State Bank of Pakistan (SBP). The Government of Pakistan, in particular, the State Bank of Pakistan, has shown strong leadership in promoting financial inclusion, as a priority, and has played an important role in the evolution of G2P payment systems. The State Bank is the implementing agency for the DFID funded Financial Inclusion Program that includes the Financial Innovation Challenge Fund (FICF) launched in 2011. The State Bank, hence, aims to foster new innovations, test new markets, lower costs of delivery, enable more efficient systems and provide new ways of meeting the unmet demand for financial services. The first round of the FICF focussed on G2P payments and six projects were approved for grant funding. As branchless banking seems to dominate the retail banking landscape in the future, and perhaps the G2P sector, the Bank ensures that high level of standards are maintained for safety, security and protection of consumer's interests in Pakistan (Rotman, Kumar and Parada, 2013).

Besides issuing licenses to banks for offering mobile financial services, the Bank continuously scrutinises financial transactions and heavily penalises banks if they fail to comply with regulation. The State Bank revised regulations in 2011, in providing more leverage and flexibility to mobile operators in the management of customer accounts that reduced administrative loads, associated with opening a mobile account for mobile money customers (CGAP, 2012). Moreover, the State Bank conducts periodic regular audit checks on banks, requests for transaction reports, incorporating customers CNIC and mobile numbers, in compliance with the '*know your customer'* (KYC) guidelines. The guidelines record customer's security details (CNIC number, mother's maiden name, place of birth, permanent residence) at the time of sign up, and provides a 4 digit security PIN which is only known to the sender and receiver. Hence, these measures mitigate financial risks for both financial providers and mobile account users in the mobile financial sector (CGAP, 2012). As stated by the Governor of the State Bank of Pakistan,

> Since branchless banking is becoming a vital component of the national payment grid, it is prudent for all stakeholders to ensure that appropriate measures are in place to mitigate inherent risks associated with it, like access by unauthorised persons or criminals, such as, hackers, money launderers, terrorists and financiers (Anwar, 2013).

Furthermore, in order to prevent terrorist financing and money laundering, associated with mobile money, the State Bank has introduced system controls that closely monitors each transaction. Money transfers, exceeding the upper daily limit of approximately USD $143 (PKR. 15000) per day for over-the-counter payments, and USD $238 (PKR. 25000) per day for mobile payments, and over the monthly limit of USD $572 (PKR. 60000) are interrogated by the Bank. However, there is criticism from the mobile communications industry that the regulation policy of the State Bank rather favours financial institutions in expanding their business models over the financial inclusion objectives that serve unbanked populations in the country.

Nonetheless, as m-banking is gaining critical mass in a short period of time, the State Bank of Pakistan aims to shift transactions from first generational services (person-to-person/bills payments) to second generational services (account-to-account and inter-bank transfers). Thus, key stakeholders need to expand their product portfolios and design innovative financial services for their target markets. In this context, the State

Bank invites private sector companies to address the next generation challenges that currently face the financial industry in Pakistan. As highlighted by the Governor of State Bank of Pakistan,

> Mobile banking is part of an inevitable evolution which will ensure the long-term sustainable development of the sector- encourage micro savings and help in meeting the demands for inclusive financial services of the target market (Anwar, 2013).

Pakistan Telecommunication Authority (PTA)

The telecommunications industry regulator in Pakistan, the Pakistan Telecommunication Authority (PTA), plays a significant role in formulating branchless banking regulations. In 2011, PTA signed a memorandum of understanding (MoU) with the State Bank to jointly develop regulations related to interoperability issues in the branchless banking sector. Subsequently, the joint approach has created confidence within banks and mobile network operators who continue to invest in the growth of the branchless banking sector. Further, PTA evaluates the merits of issuing specific guidance to the industry on the use of telecom channels (SMS, USSD, etc.) for branchless banking services. The guidance also has implications on how banks and telecom regulators, involved in the G2P sector, may continue to offer services over m-banking platforms. However, in times of extreme political turbulence and security threats, PTA requests the closure of all mobile networks that consequently, has detrimental effects on the revenue streams for mobile operators (Rotman, Kumar and Parada, 2013).

The National Database and Registration Authority (NADRA)

NADRA is a federal department responsible for issuing computerised national identification cards (CNIC) to all citizens, eighteen years and older, based on a biometric database. It plays a critical role in verifying the 'know your customer' requirements at the time of mobile account opening and charges a fee of USD $0.3 (PKR. 35) per verification. Nonetheless, the verification fees have been criticised for increasing the cost of account opening for mobile customers. However, the State Bank of Pakistan has sanctioned banks to open accounts for G2P beneficiaries without going through the formal account opening process of NADRA verification, thereby, waiving off the fee for

G2P beneficiaries. As NADRA is getting involved in other financial services, including its close work relationship with other G2P programmes, besides BISP, it has recently launched a computerised chip-based version of the CNIC. Also, it helped BISP in the targeting procedures for identifying beneficiaries- via the poverty score card, and maintained and shared its database information with BISP for delivering digital payments. Hence, NADRA mostly handles the entire financial process- from verification, registration, issuance of cards to the enablement of the cash withdrawal mechanism in the G2P system (CGAP, 2011; BISP, 2014).

4.4 Purposive Sampling

In the study, purposive sampling was used to select the geographical location of the research site and recruit participants for the interviews and focus groups. In qualitative studies, authors recommend purposive sampling over random sampling in case study research because it is important to select representative cases that closely simulate the real world of the case under investigation (Tellis, 1997; Creswell, 2012) According to Marshall (1996), although random sampling provides the best opportunity to generalise the results to the population, it may not be the most apposite in developing an in-depth and thorough understanding of the complexities relating to human behaviour in qualitative research. Merriam (1998) also resonates that purposive sampling is the most common sampling method in selecting cases for an interpretive inquiry, as it determines the selection criteria which reflects the purpose of the study and guides the researcher to identify information rich cases. In effect, cases are selected with a specific purpose in mind in reflection of the events, issues, or qualities of people that are relevant to the research question and topic of investigation (Denscombe, 2010). Hence, purposive sampling ensured that all participants, recruited from the selected research sites, were the most qualified and knowledgeable to answer the specific research questions in this social inquiry.

4.4.1 Selection of the Research Sites- Islamabad and Rawalpindi in Pakistan

In the study, the geographical location selected was Islamabad and Rawalpindi in Pakistan. Islamabad is the capital city located within the Federal Territory with an estimated population of around 2 million. Combined with its neighbouring city, Rawalpindi, located in the Punjab Province, the greater Islamabad-Rawalpindi metropolitan area is the third largest in Pakistan with a population over 4.5 million inhabitants in the region (Pakistan Bureau of Statistics, 2013).

Urdu- the national language of the country is predominantly spoken within the twin cities followed by other regional languages. Both Islamabad and Rawalpindi present a rich ethnic mix of populations with the majority from Punjab, Sindh, Khyber Pakhtunkhwa and Azad Kashmir whilst smaller populations have emigrated from the Federally Administered Tribal Areas, Balochistan, and Gilgit-Baltistan. Since its foundation, Islamabad has attracted many people from all over Pakistan making it one of the most cosmopolitan and urban cities of the country (Pakistan Bureau of Statistics, 2013).

The Human Development Indicators of Islamabad and Rawalpindi are comparatively better than any other provinces and districts of the country. According to the Pakistan Bureau of Statistics (2013), Islamabad has the highest literacy rate [15]of 88 percent in Pakistan against the national average of 58 percent that is recorded from the latest Pakistan Social Living Standards Measurement (PSLM) survey done in 2013-2014. In Punjab, the literacy rate of 61 percent in the province also exceeds the national average where the female literacy rate is 52 percent that is also higher than the national average of 47 percent in the country (Pakistan Bureau of Statistics, 2013).

On the basis of this statistics, Islamabad and Rawalpindi are considered as a model for development intervention, owing to the cultural and ethnic diversity, and women's well-being status which is more advanced from other regions of the country. Therefore, one of the reasons for selecting the sites was that the findings from the region, may be used as a bench-mark to compare with other cities in other regions. In addition, Islamabad and

[15] The literacy rate is estimated on the population of 10 years and above (both male and female) which is able to read and write in any language.

Rawalpindi constituted two out of the five regions- Islamabad, Rawalpindi, Layyah, Larkana and Battagram- where m-banking was implemented as pilot projects by BISP.

Yin (2009) further reasons that convenience, access and geographic proximity may present other criteria for selecting a case location. This further strengthens the rationale for choosing the area, as the head office of the Benazir Income Support Programme was located in the Parliament Building in Islamabad to provide easy access to government officials for conducting interviews at BISP. Also, it was convenient to obtain secondary data- official documents, publications and reports directly from BISP officials. However, access to beneficiaries in the region was provided through the field officer at the Tarlai Field Office that was also located in Islamabad. The field office was located within easy reach of beneficiaries who resided in the urban slums and rural clusters located in poverty-stricken areas in Islamabad and Rawalpindi. Namely, a few localities were- *Khanna Daak, Alipur, Dhok Kashmirian, Rawat, Chak Khaas, Chakra and Rawalpindi Cantt.*

Further, the head offices of renowned mobile operator companies, Telenor and Ufone, involved in the m-banking projects with BISP were also located in Islamabad. This also strengthened the rationale for selecting the research sites as mobile operator officials were approachable to offer precise information required for the study. Although most banks' head offices were located in the financial capital of the country, Karachi, bankers were interviewed at their regional offices in Islamabad. Also, the regional offices of international donor agencies were present in Islamabad that enabled me to directly establish contact with the relevant officials working closely with BISP. For these reasons, the region was significant for data collection in the study.

Figure 4.4 illustrates a map of Pakistan that marks Islamabad and its neighbour city, Rawalpindi, as research sites, in the case study.

Figure 4.4: Map of Pakistan Showing the Research Sites of Islamabad and Rawalpindi

4.4.2 Selection of Participants

The participants in the study were purposively sampled on the basis of being able to provide the most relevant information in response to the research questions in the study (Bryman, 2012; Creswell, 2012). BISP officials hailed from the strategic, managerial and operational levels in various departments and were selected owing to their job specifications, roles and expertise- accredited as the most knowledgeable on the topic. Hence, they were recruited keeping in view their job descriptions that were suited to answer the interview questions that corresponded to the primary research questions. As mentioned earlier, a BISP Director facilitated my visit to the Tarlai Field Office in

Islamabad where I introduced myself to the field officer. After explaining the purpose of my study, the inclusion criteria was set for sampling beneficiaries to take part in interviews and focus group discussions. This included possession of a mobile phone, area of residence (Islamabad/ Rawalpindi), and registration with BISP for a minimum of 18 months. In order to ensure that all participants qualified as 'original' beneficiaries, their national identity cards were checked and verified in the BISP database. In order to avoid any form of bias resulting from purposive sampling, I randomly selected all beneficiaries who visited the field office on that particular day before validating their eligibility applying the inclusion criteria. The advantage of going through the field officer acting as a gate keeper was that beneficiaries felt more comfortable in her presence, so many of them willingly agreed to participate in the study. This was because they had already established a mutual relationship of trust with the field officer so therefore, did not hesitate to interact with a foreign researcher.

Other participants in the study- bankers, mobile operator staff and international agency officials were also purposively sampled on the basis of being directly involved with the BISP programme. Also, as the most knowledgeable in their specific job roles, they were competent to provide the most relevant responses, in lieu of the interview questions. Hence, participants were recruited from the strategic and senior management levels and given their specific expertise, they were the most reliable in offering their opinions and perceptions on the m-banking themes explored in the study. As the case study affords an interpretive research inquiry, the research sample may not be large enough for making statistical generalisations on the outcomes, but later I will discuss how case study research, based on the theoretical propositions, provides value in generalising the research outcomes across similar settings (Yin, 2003).

Table 4.2 lists the various participants who were selected for interviews and focus group discussions in the case study.

Social Agents	Sampling Strategy	Participants	Methods
M-banking Users	Purposive Sampling -Ownership of mobile phone - Locality - Registration with BISP for minimum 18 months.	Women Beneficiaries	Semi-structured Interviews Focus Groups
BISP Programme Managers	Purposive Sampling	Strategic Staff (Chairman, Director Generals, Directors) Senior Management Staff (Senior Managers, Managers, Case Specialists) Operational Level Staff (Field Officers)	Semi-structured Interviews Documents/ Official Reports/Websites/ Newspapers
M-banking Providers Bankers Mobile Operator Staff	Purposive Sampling	Executive Vice President Senior Management Staff (Directors, Senior Managers, Managers)	Semi-structured interviews Documents/Official Reports/Websites/ Newspapers
Donor Officials	Purposive Sampling	Senior Management Staff (Director)	Semi-structured interview Documents/Official Reports/Websites/ Newspapers

Table 4.2: Participants Sampled and Methods Used for Data Collection

As shown in Table 4.2, data was collected from multiple stakeholders that helped integrate the findings to construct internal validity (Bryman, 2006), whilst also supporting *theory triangulation*, as different perspectives are analysed on similar propositions in the theoretical framework (Yin, 2009). Moreover, data from interviews and focus groups was converged for *method triangulation* that further validated the results in the qualitative study (Lambert and Loiselle, 2008; Yin, 2009).

4.5 Data Collection Methods

Methods are simple data collection instruments, or techniques, that are linked to the methodology and research approach in the study. They involve a specific instrument, or a set of methods- ranging from surveys to questionnaires used in the deductive approach to test hypotheses in quantitative inquiries. Alternatively, qualitative methods constitute interviews, focus groups, observations, field diaries, oral histories, poetry, prose and pictorial data (maps, videos, pictures, photographs, films and diagrams) in the inductive approach within interpretive inquires. Secondary data sources such as, documents, reports and formal and informal media resources (newspapers, websites, social media and blogs) are other rich sources of data used in qualitative research inquiries.

My study deployed qualitative methods drawing on the research philosophy that also informed the theoretical perspective, Duality of Technology, relating to the epistemological stance of interpretivism in this research. Since the case study was *exploratory* in nature (Yin, 2009), various qualitative methods were used for data collection. Semi-structured interviews and focus groups were the primary methods utilised that closely knitted with the qualitative inquiry centred on the complex, messy and subjective nature of the research problem. Additionally, secondary data was sourced from policy reports, official documents, newspapers and websites to access background information on the case of the Benazir Income Support Programme, and other organisations, including mobile operators, banks and international agencies. As the research followed a qualitative inquiry, the various methods helped in the triangulation

of data to validate the research findings in the study (Bryman, 2006; Lambert and Loiselle, 2008).

Furthermore, the application of qualitative methods was justified in the study because m-banking was perceived to be situated within a cultural, social and organisational context that required a rich understanding of its setting to interpret the complex m-banking issues presented in the case study. Hence, the link between culture and methods is an opportunity to question the methodological preferences, for which, qualitative methods are the most appropriate to interpret social actors' lived experiences, body language, behaviour, ethical standards and cultural norms in any given society. Moreover, the collection of in-depth, rich data helps to explore relationships and processes that 'unfreezes' thinking towards a framework for addressing the research issues in relation to m-banking in Pakistan.

4.5.1 Interviews

Interviews are an important communication tool in society, providing the means through which information is exchanged between individuals to achieve successful communication and seek essential data within the interpretive research inquiry. Although interviews are essentially an exchange of information, Dwyer (1993) distinguishes interviews from casual conversations on the basis that interviews are planned, prearranged, structured and controlled by the interviewer amidst a predetermined objective. Since my research had an exploratory focus, interviews were the fundamental tools utilised to gain in-depth insights on the m-banking innovation process in BISP households.

The data collection process was undertaken in March and April 2014 in Islamabad-Pakistan. A total of 33 semi-structured interviews were conducted with various participants to gather perspectives regarding m-banking construction, its usage and effects on households in the BISP case study. Gillham (2000) highlights that semi-structured interviews, owing to their flexible nature, are the most effective form of interviews in case study research. A concise interview guide (see Appendix 3) was structured with a pre-conceived list of interview questions drawing on concepts in the

research questions. As the research questions were linked to the theoretical constructs in the research framework, they were fragmented into themes based on the concepts at various analytical levels in the framework. As presented in Appendix 3, the interview questions were tailored to the nature of information sought from various social actors. Hence, the interview questions were designed to feed into the main research questions that mapped the themes onto the theoretical constructs in Orlikowski's Duality of Technology (1992) framework. However, Yin (2009) advises that in a case study, it is important to have some flexibility in questions to allow interviewees autonomy to explain their viewpoints. Thus, some questions were designed to be fluid in ensuring that information flowed naturally, as Wu (2007) confirms that semi-structured interviews gives some control to participants to freely express their views. Hence, semi-structured interviews not only unveiled participants' perceptions, but also provided opportunities to further probe and ask for clarification. Bell (1993) also resonates that the use of semi-structured interviews enables the collection of rich data and is useful for encouraging discussions on issues that may otherwise not be identified in questionnaires. Therefore, participants in the study were allowed to divulge any information that they deemed was relevant on the subject and were not restricted to answer the specific questions asked. Although the interview guide helped in time management, as the interviews progressed, there was no obligation to strictly adhere to the sequence of questions in the interview guide as long as it was ensured that all questions were covered.

As mentioned, prior to all interviews, a Participant Information Sheet (PIS) was provided to all participants that introduced the research study, objectives, type of information sought, data storage, privacy and other ethical concerns (Appendix 1). Miles and Huberman (1994) suggests recording interviews as a means of providing a complete description of interviews, responses and comments. Most interviews were recorded after seeking permission, since it did not compromise on the quality of the interview, or influence participant's behaviour in any manner during the process. Also, recording did not present any ethical concerns for the majority of participants, although few objected given the sensitivities involved in working in the government sector. All participants were requested to sign a Participant Consent Form (PCF) to indicate their willingness to participate in the study, in conformation with Anglia Ruskin University's ethical

guidelines that was mandatory before data collection in any research study (refer to Appendix 1 and 2).

As data was collected over two months in Pakistan, this period was extremely busy and intense with pressure to seek sufficient data in the limited time. Keeping this is mind, I delayed the transcription process until returning back to UK. Hence, the core purpose of my trip was concentrated on the efforts to effectively expend time in maximising data resources for the study. The interviews with women beneficiaries were held in the local language, Urdu, but with the management staff at BISP and other organisations, they were primarily conducted in English- the official language in the formal work place in Pakistan. However, whilst translating the scripts from Urdu to English, I was careful in ensuring that the actual meanings, or perceptions of participants were not lost in the process. Quite surprisingly, during the transcription process, the interviews were still fresh in my mind that enabled me to make sense of any ambiguous data. During the interviews (recorded and unrecorded) and focus group discussions, case notes as back-up data were also simultaneously taken which were concisely summarised and coherently typed out to provide structure for the management of data (refer to Appendix 4). Data management involved a lengthy process before proceeding onto data analysis in the study.

Interviews with BISP Officials

A total of 9 face-to-face semi-structured interviews were conducted with the following officials at the BISP Head Office and Field Office in Islamabad, Pakistan.

- ***Strategic Level Staff***: The Chairman, Director Generals and Directors working at the strategic decision-making levels offered critical insights on the objectives of the programme, the design and construction of m-banking into the programme, perspectives on the enabling and/or constraining effects of m-banking practices on both managers and users, and the socio-economic effects of m-banking for financial inclusion in BISP households.
- ***Senior Management Level Staff:*** Senior Managers and Case Specialists involved in the implementation of m-banking, in particular, highlighted the

benefits and challenges of m-banking faced by staff and beneficiaries, and the economic and socio-political implications of m-banking on BISP households.

- ***Operational Level Staff***: The Field Officer at the Tarlai Branch Office in Islamabad, being in direct contact with beneficiaries narrated women's experiences and perceptions in using m-banking for receiving G2P payments.

The interview guide (Appendix 3) was slightly modified for each BISP official in correspondence to their nature of work, job responsibilities and roles within the programme. The interviews at the head office were pre-scheduled and held within a formal setting in English, and ranged between 45-60 minutes on average. It is noted that 7 out of the total 9 interviews were tape recorded and transcribed, whilst case notes were immediately jotted down for both the recorded and unrecorded interviews (Appendix 4). Prior to all interviews, an Information Participant Sheet was presented and ethical consent was signed from all BISP officials, in conformation to the research protocols outlined in Anglia Ruskin's Ethical Guidelines (Appendix 1 and 2).

Table 4.3 summarises the interview themes explored in light of the research questions that were based on theoretical propositions in the research framework.

Process	Participants	Themes Explored	Methods	RQs and Outcomes
Interviews held at BISP Head Office in Islamabad.	BISP Chairman Director General of Cash Transfers Director General of Payments Director of Payments Director of Operations Director of Waseela Haq Outreach Manager Case Specialist	Themes relating to the social construction of m-banking, or transition to digital G2P payments. Objectives of BISP. Usage- enabling and constraining effects of m-banking on managers and beneficiaries. Socio-economic effects of m-banking on BISP households for financial inclusion. Socio-political effects on households. Households graduating from poverty.	8 Semi-structured Interviews (45-60 minutes). Documents/ official reports/ websites	Data on social construction of m-banking- RQ1 Enabling and constraining effects of m-banking for BISP Managers- RQ2 Effect of m-banking on households for financial inclusion-RQ3
Interview conducted at Tarlai Field Office in Islamabad.	Field Officer	Challenges and benefits of m-banking usage. Implications of m-banking on households. Evidence of savings, investments and usage of money. Training and education, financial awareness.	1 Semi-structured Interview (45-60 minutes).	Enabling and constraining effects of m-banking usage by beneficiaries - RQ2 Social and economic changes in households- RQ3

Table 4.3: Data Collection from BISP Staff at Head Office and Tarlai Field Office in Islamabad

Interviews with Women Beneficiaries

Figure 4.5: The Tarlai Field Office (external view) where Interviews and Focus Groups were conducted with Women Beneficiaries in Islamabad

In total, 16 semi-structured interviews with women beneficiaries were conducted at the Tarlai Field Office in Islamabad (Figure 4.5). My role as a female researcher was beneficial as women participants felt more comfortable interacting with a female researcher during the interviews. Although I was introduced as a foreign researcher, owing to my ethnical background, I had the advantage of being fluent in the local language, and dressed in the local attire, put many women at ease. As a result, women faced negligible language or cultural barriers during their interactions, and openly and freely expressed their views since they were not culturally confined by the veil, or *purdah* in my presence. The field officer introduced me to beneficiaries who were visiting the field office, either for payment related queries or collection of their debit cards. After randomly selected them, their identities as beneficiaries were verified against the inclusion criteria after which they were recruited for interviews. Since most participants lacked basic literacy levels, the Participant Information Sheet and Consent Forms were verbally read out and their consent was recorded by the field officer.

The interview questions were semi-structured and explored themes on issues relating to m-banking usage, in particular, how m-banking enabled and/or constrained their G2P practices, and how it affected their social and economic standing in their respective households (Appendix 3). Some background information was also gathered in relation to their socio-economic and demographic profiles- age, household size, number of children, literacy level, monthly income, and employment status (refer to Table 6.1 in Chapter 6). In total, 16 interviews were conducted, out of which 14 were tape recorded, whilst case notes were also taken during the interview process (Appendix 4). The interviews were conducted in the local language, Urdu, whereas, 2 respondents spoke in their regional language, Pashto, so were accompanied by a friend as an interpreter. Interviews with each beneficiary lasted around 60-75 minutes, and every effort was made to put them at ease and connect with them in every possible way. Table 4.4 illustrates the themes explored in the interviews that mapped onto the research questions in the study.

Process	**Participants**	**Themes Explored**	**Methods**	**RQs and Outcomes**
Interviews and focus with women beneficiaries held at BISP branch office in Islamabad.	BISP beneficiaries using m-banking for receiving G2P payments.	Beneficiaries' perspectives in using mobile phones to access social payments. M-banking experiences - enabling and/or constraining their practices. Usage of money, awareness of accounts, savings, access to loans, economic change. Social issues –education, health, empowerment, training, socio-political change, social well-being.	16 Semi-structured Interviews (60-75 minutes). 2 Focus Groups- with 7 participants each or total 14 participants (60-90 minutes for each focus group).	M-banking conditioning beneficiaries practices for receiving G2P payments- RQ2 Effects of m-banking on the socio-economic properties of households for financial/social inclusion- RQ3

Table 4.4: Data Collection from Women Beneficiaries Registered with BISP in Islamabad Field Office

Interviews with Bankers, Mobile Operator Officials and International Agency Staff

The staff at BISP provided contacts of relevant stakeholder groups- bankers, mobile operator officials, and international agency staff, who were invited to participate in the study. In total, 3 interviews were held with bankers- Executive Vice President at United Bank Limited, Senior Manager at Bank Alfalah and Assistant Manager at Summit Bank. Summit Bank was the local bank that was involved with BISP in the delivery of G2P payments in the research region. The interview guide (Appendix 3) ascertained the role of financial institutions in transferring mobile-based G2P payments to BISP beneficiaries, outlined the business case, the nature of accounts, m-banking models and the scope of financial services were some themes explored during the interviews. The average duration of the interviews were 45-60 minutes and were primarily conducted in English.

Additionally, mobile operator staff who were involved with BISP were contacted to schedule interviews. Based on the interview guide, presented in Appendix 3, the semi-structured interviews helped determine participant's role in the BISP programme, primarily, related to the delivery of G2P payments- via m-banking channels. Their perceptions reflected on the construction of m-banking, the role of regulators, usage of mobile technologies by beneficiaries, and the social and technological effects of m-banking on users' practices and household structures. A total of 4 interviews were conducted from the Director of Easypaisa at Telenor, BISP Liaison Manager at Telenor, Manager at Ufone, and Franchise Manager at the Ufone Franchise. Ufone was the local mobile operator, in partnership with Summit Bank, in the local research sites of Islamabad and Rawalpindi. Each interview lasted between 45-60 minutes and was primarily held in English.

The role of international donor agencies were significant in the construction and design of m-banking into the BISP programme. Hence, it was pertinent to obtain viewpoints from staff in relation to m-banking design, usage and the socio-economic effects of technology on users' households. A semi-structure interview ranging between 45-60

minutes was conducted with a DFID Director, who was the most informative to answer the research questions as key to the BISP programme. Based on the interview guide, as attached in Appendix 3, the questions corresponded to DFID's involvement in the BISP programme, and obtained perceptions to understand the experiences of foreign agencies working with BISP on the construction of m-banking, funding and support in delivering G2P payments, social change and the financial inclusion objectives. The interview was fruitful to gain a foreign insight into the perspectives on local m-banking practices and how these underpinned donors' own vision of the programme.

Table 4.5 presents the major themes explored during the interviews that were mapped onto the research questions in the study, and Appendix 4 provides a summary of the highlighted themes.

Process	**Participants**	**Themes Explored**	**Methods**	**RQs and Outcomes**
Interviews conducted with Bankers at the Strategic and Senior Management Levels.	UBL- Executive Vice President Summit Bank- Assistant Manager Alfalah Bank- Senior Manager	Financial providers' perspectives on the role of the bank in the design and delivery of G2P- via m-banking. Business case, type of bank accounts, m-banking model. The advantages/ disadvantages of disbursing digital payments. Financial services provided for financial inclusion and social empowerment of users.	3 Semi-structured interviews (45-60 minutes) Documents/official reports/websites	Role of banks in the construction of m-banking for the delivery of G2P payments- RQ1 Banks affecting practices for managers and users- RQ2 Effects of mobile payments on financial/ social inclusion- RQ3
Interviews held with Mobile Operator Staff at	Director of Easypaisa at Telenor	Issues relating to the design of m-banking and how it facilitates	4 Semi-structured interviews (45-60 minutes).	The shift and design of m-banking- RQ1

the Strategic and Managerial Levels.	BISP Liaison Manager at Telenor Manager at Ufone Franchise Manager at Ufone Franchise.	and/ or constrains beneficiaries to receive G2P payments. Role of regulators in m-banking models and affecting beneficiaries' practices.	Documents/ official reports/websites	M-banking enabling and/or constraining beneficiaries- RQ2 Financial/ social inclusion at household levels- RQ3
Interview with International Donor Staff	Director at DFID	Perspective on the transition to m-banking payments. Donor's role in the targeting and delivery of digital payments. Financial resources and institutional support for BISP. Social and economic changes in households.	1 Semi-structured interview (45-60 minutes) Documents/ official reports/ websites	M-banking construction - RQ1 Effects on households for social and economic changes and financial inclusion- RQ3

Table 4.5: Data Collection from Bankers, Mobile Operator and International Donor Officials

4.5.2 Focus Groups

A focus group is an informal discussion amongst a group of selected individuals on a particular research topic (Bloor, et al., 2001). Since it involves more than one participant, per data collection session, it is also referred to as a focus group interview, a group interview, or a group in-depth interview (Wilkinson, 2004). Broadly speaking, focus groups are 'collective conversations', which may be small or large (Kamberelis and Dimitriadis, 2008) and the group is focused because it involves some kind of collective activity (Kitzinger, 2005).

In this study, the primary aim of arranging focus groups was to construct perceptions from the meanings, body language, feelings and emotions of women beneficiaries to deepen our understanding on their m-banking usage and how it affected the structural properties of their households. There were 2 focus groups each with 7 participants, or total 14 participants, conducted at the Tarlai Field Office in Islamabad. Methodologically, the participants were recruited purposively using the same inclusion criteria that was applied in selecting participants for the individual interviews. However, in order to avoid bias in the sampling, all beneficiaries present on the day were invited to participate in the focus groups before verification of the inclusion criteria.

The first focus group was held before the individual interviews and was used for exploratory purposes (Bloor, et al., 2001; Lambert and Loiselle, 2008) to get a general picture or sense relating to m-banking for receiving G2P payments. The second focus group was held after the individual interviews and was used to further confirm, validate or corroborate the findings from the individual interviews (Bloor, et al., 2001; Lambert and Loiselle, 2008). This helped in identifying whether there were any divergence in the data obtained from both methods whilst exploring common themes from the interview guide. However, it was found that similar narrations were inscribed in the data integrated from both methods that authenticated the data for methodological triangulation in the interpretive inquiry (Lambert and Loiselle, 2008).

Both focus groups were moderated by myself, ranged between 60-90 minutes approximately and were tape recorded. After introducing myself and the topic, the questions invited open discussion from participants, but when the conversation started drifting from the topic, I had to intervene and put the conversation 'back on track'. The discussions between the participants provided an opportunity to hear issues that may not have otherwise been disclosed from individual participants responding in a more closed environment (Bloor, et al., 2001). The interactions amongst the participants provided more freedom in expressing their viewpoints, in contrast to the control that was exerted through the individual one-to-one interviews. Hence, focus groups were useful in allowing group dynamics to emerge whilst capturing the shared lived experiences of beneficiaries' usage of mobile phones. Hence, this method uncovered those hidden

aspects of m-banking issues and provided beneficiaries the opportunities to define what was relevant from their own personal perspectives. The emerging issues unfolded a range of responses that presented a more comprehensive understanding of the attitudes, behaviours, opinions and perceptions of beneficiaries in the case study. Therefore, the discussions afforded a negotiation of meanings that were centred on several aspects of m-banking practices and explored themes in relation to the research questions. Further, the convergence of central characteristics of phenomenon across focus groups and individual interviews enhanced trustworthiness (Lambert and Loiselle, 2008). The data from the focus groups is summarised and coded in the case notes in Appendix 4.

4.5.3 Secondary Data

For case study research, the most important use of documents is to corroborate and augment evidence from other sources, especially if the documentary evidence is contradictory, and to make further inquiry into the topic for making inferences (Yin, 2009). In my study, prior to the collection of data, BISP's website communicated essential information to introduce the case, and was useful in providing essential background information on the programme. Similarly, other websites of relevant stakeholder groups provided preliminary information that helped in designing the interview guide. The company documents provided by officials were also used to cross-check the data obtained from other methods to contribute to the methodological vigour in the case study. Other vital information was also drawn from other media channels, including newspaper reports and blogs that were rich sources of data.

Moreover, the secondary data for the case study research was useful in providing numeric or statistical data that was not revealed through the primary data sources. However, Yin (1994) contends that researchers must not regard documents and records as a pure account of facts that have happened. This is because the analysis of information contained in the documents does not convey the reactions and feelings of participants that can be captured from interviews and focus groups to interpret the findings in context.

4.5.4 Validity, Reliability and Generalisability of Data

The design and approach of this case study was laden with the researcher's subjective interpretations of data as well as ingrained values and preconceptions. It is therefore necessary to make a statement of defence for the reliability and validity of an interpretive research design given the qualitative nature of the data (Orlikowski, 1991). A more operationally subtle methodological complexity is associated with 'construct validity' (Yin, 2003) that links the questions pursued in the field to the primary research question. However, as the themes are situated in the interview questions that are linked to the research questions, construct validity is already addressed. In relation to this, Yin (2009) identifies that the validity of findings in qualitative research is achieved through a variety of dimensions, including *data integration,* as data is sourced from multiple stakeholders and *theoretical triangulation* achieved from analysing the same theoretical propositions, within the data set, from various actors' perspectives. Also, other scholars debate that *method triangulation* contributes to knowledge production and synthesis in the research outcomes (Lambert and Loiselle, 2008). All this established converging lines of evidence that increased the credibility of the research outcomes.

Other questions regarding the reliability of the proposed research design address the methodological difficulty of replicability (Lee, 1989). Adequate allowance is given in this research design through the transcription process, the creation of a database for storing data, copying relevant documents and making the epistemological and analytical assumptions explicit. This is because the reliability of case study research depends on procedural transparency (Klein and Myers, 1999; Yin, 2003) that maintains a chain of evidence in the research process.

Nonetheless, a fundamental difference between nomothetic and idiographic research design in relation to this is that whilst the former makes generalisations based on law-like regularities, the latter depends on other forms of logic- the development of concepts, generalisation of theory drawing on specific implications in particular domains of action and contribution of rich insights (Walsham, 1995) or '*analytic generalisation'* (Yin, 2003). Otherwise, the single case design of this study might be methodologically scientifically challenged (Lee, 1989). Hence, authors have argued that it is possible to

generalise single case study findings to theoretical propositions (Lee, 1989; Yin, 2003), so hence, the generalisability of results based on case studies offer great value in the IS research field (Walsham, 1993; 1995; Klein and Myers, 1999). Therefore, by achieving validity, reliability and generalisation from this interpretive inquiry enhances the methodological vigour in the BISP case study.

4.6 Critical Reflection on my Role as a Researcher

Whilst reflecting on my data collection journey, my role as a researcher is significant to understand how bias was minimised, keeping in view the dimensions of axiology and reflexivity in the study. Indeed it is also vital to highlight the ethical protocols that were adhered to, before and during the entire data collection process.

4.6.1 Axiology

Axiology presents the researcher's values in the research, so becomes an integral part in the research process (Rimenyi, et al., 1998). This implies that the researcher is not independent of what is being researched, therefore, plays an intrinsic act, or role in the process (Rimenyi, et al., 1998). As an interpretivist researcher, it was vital for me to avoid imposing externally defined concepts during the analysis, but rather interpret the data, as conceived through the lens of participants in the study. Although my affiliation to Anglia Ruskin University- UK, positioned me as an external researcher in Pakistan, my ethnicity of being Pakistani easily helped me to adapt into the local environment. As I had the advantage of being fluent in the local language and understand the local traditions and customs, however, this also implied that my research values were deeply embroiled in the local context in understanding the subjective reality of participants.

In order to defend my position, I use Rosen's (1991) argument who states that understanding social processes involves getting inside the world of those generating them. Despite this, every effort was made to minimise any bias by ensuring that my personal interpretations were set aside from participants' viewpoints in every manner wherever possible. However, at times I must admit that it became slightly challenging to interpret and then re-interpret the m-banking reality from participant's point of view. Bryman (2012) labels this process as 'double hermeneutic', as both the researcher and

participants share the position of an interpreter or sense seeker. Hence, it was critical for me to understand how participant's viewed their own reality that was presented in the purest sense. As Bryman (2008) states,

> When social scientists adopt an interpretive stance, they are not simply lying bare how members of a social group interpret the world around them. The social scientists will almost certainly be aiming to place the interpretations that have been elicited into a scientific frame. There is a double interpretation going on: the researchers are providing an interpretation of other's interpretation. Indeed, there is a third level of interpretation going on, because the researcher's interpretations have to be further interpreted in terms of the concepts, theories and literature of the discipline (Bryman, 2008).

4.6.2 Reflexivity

Reflexivity is also known as 'critical subjectivity' (Carr and Kemmis, 1986), or 'transformative subjectivity', as synthesised in the literature (Frieden, 1989). It is the ability to enter into an altered state of 'consciousness' for the purpose of understanding, with great discrimination, subtle differences in the personal and psychological states of participants in the inquiry (Rowan, 1981; Reason and Rowan, 1981). Guba and Lincoln (1981) describe it as a process of critical reflection on the self, or researcher, being the human instrument. Hence, as an interpretive researcher, critical reflexivity is essential to understand one's emotional and psychological states- before, during and after the research process.

During my research inquiry, reflexivity enabled me to uncover the dialectic relationships between m-banking practices, as used by social actors in their social and organisational contexts. Hence, as an interpretivist researcher, my aim was to understand and construct a holistic picture of m-banking practices that was devoid from personal opinions whilst understanding the emotional states of participants, through a neutral stance, to avoid contaminating the findings. This included capturing the m-banking experiences of participants, and interpreting them, with critical subjectivity whilst interpreting the data in the study. Ray (1993) further stresses that 'we are beginning to realise that if we don't believe in something, it doesn't exist- no matter how much data is thrown in front of us'. Moreover, in reflection of Reinharz (1997) critical reflexivity entailed suspending, or bracketing my personal beliefs in order to present participants' viewpoints in the most objective manner without becoming socialised to the views of the people in the field.

4.6.3 Ethical Concerns

Drawing on my Pakistani ethnicity, my familiarity with the local culture, traditions and belief systems, facilitated my access to women participants in a study, which otherwise would have been problematic if a male researcher conducted the study. Keeping this in mind, it was more ethical for a female researcher, like myself, to conduct a study in a community that was traditional and mainly segregated on the basis of gender in social settings.

After completing the mandatory ethical skills training at my university, and having granted approval (Appendix 1), the ethical sensitivities from the nature of research were borne in mind throughout the data collection process. Participants were made aware of the purpose of the study that was detailed in the Participant Information Sheet (PIS), as attached in Appendix 1. Moreover, they were informed that they were granted the right to withdraw from the study, at any time, at their discretion. As the majority of women beneficiaries were illiterate, their consent was recorded by the field officer on the Participant Consent Form (PCF), as presented in Appendix 2. Similarly, all other participants were also requested to sign the Participant Consent Form after they agreed to participate in the study. Permission to use the information, contained in government reports and company documents, was sought from the respective staff, owing to the sensitivity of the nature of information. Also, permission was obtained from all participants before audio-recording the interviews, or taking any pictures to be used for the sole purpose of the thesis. Beneficiaries were not coerced to disclose any information, involuntarily, to avoid any dangers or risks from their family members. The study ensured that the personal interests of all participants remained protected, as much as possible, by honouring their integrity and safeguarding their personal well-being in all forms.

Furthermore, in the study, every attempt was made to keep the names of all participants anonymous in conformation to the UK Data Protection Act (1998). Moreover, it was clarified that the research findings would be disseminated in research journals and conference publications for academic purposes only, but clearly not to any third party without their knowledge or permission. Hence, the study complied with the ethical code

of conduct as presented in the university guidelines that was mandatory according to UK Legislation.

4.7 Data Analysis

Although a number of techniques for case study data analysis have been suggested (Miles and Huberman, 1994; Bryman and Burgess, 1994), Yin (2009) postulates the role of a general analytic strategy rather than any particular method in case study research. The most desirable strategy is to follow the theoretical propositions that led to the case study (Yin, 2009) and that is the strategy applied in my study. Theoretical propositions in Orlikowski's Duality of Technology (1992) not only guided the data collection process, but also provided a structure for organising the analysis. Hence, data was analysed in terms of the main theoretical concepts extracted from the research questions, although some new concepts emerged from the analysis and were integrated into the framework as contribution to the study.

4.7.1 Thematic Analysis

The data obtained from primary methods, interviews and focus group transcripts, was corroborated and analysed using thematic analysis. For this, data was reduced to manageable chunks for thematic coding and analysis- similar to the grounded theory approach. The themes identified were then analysed to report patterns within the data (Braun and Clarke, 2006). According to Boyatiz (1998), thematic analysis is '*a way of seeing, a way of making sense out of "seemingly unrelated material", a way of analysing qualitative information and a way of systematically observing a person, an interaction, a group, a situation, an organisation or a culture*'. Therefore, thematic analysis shares many principles and procedures with content analysis, as one way of handling rich qualitative data is by coding data according to the themes and concepts (Joffe and Yardley, 2010). Hence, the classification of various themes and linking them back to the research questions in the theoretical framework formed the basis of analysis in my study. By understanding mobile-based G2P payments, through patterns, relationships and

established connections, new themes also emerged that were used to reconstruct the theoretical framework in my study.

Moreover, thematic analysis within interpretive case study research allowed the social construction of meanings in consistent with the subjectivity involved in qualitative research (Boyatiz, 1998). Thematic analysis allowed social actors to communicate and engage in dialogue with positivists or post-positivists, so helped them to see and break out of their frames and assumptions about legitimate sources of data and open their minds to the richness of information around them (Boyatiz, 1998; 2007).

Boyatiz (1998) further argued that thematic analysis was a flexible tool used across various methods, in contrast to being restricted to a specific method for qualitative studies. As it permeates beyond a range of epistemological and theoretical approaches, thematic analysis is compatible both with realist and constructionist paradigms (Braun and Clarke, 2008). Furthermore, by identifying, analysing and reporting repeated patterns, or themes within the data, thematic analysis interprets the data set through three phases of inquiry as articulated by Boyatiz (1998).

- Sensing themes or finding a 'codable' moment by recognising patterns in the qualitative data.
- Encoding the recognisable patterns consistently for reliability.
- Interpreting the information and themes in the context of the theoretical framework in contribution towards the development of knowledge.

Whilst a good code is one that captures the richness of the phenomenon, encoding the information organises the data to develop themes. Boyatiz (1998) defines this as a pattern in the information that at minimum, describes and organises the possible observations, and at maximum, interprets aspects of the phenomenon. Hence, thematic analysis within the interpretive case study of BISP, recognises the important moments pertaining to m-banking in the disbursement and collection of G2P payments. In this study, the approach to construct themes and patterns in the data was open and flexible before interpreting the findings (Straus and Corbin, 1999).

The Hybrid Approach

My study subscribed to a *hybrid approach* by combining a theory-led approach with a data driven approach in thematic analysis (Boyatiz, 1998). Whilst a theory-led approach discovers pre-existing themes embedded in the data, it ignores the identification of new or emerging concepts in the data sets (Taylor and Ussher, 2001). So a theory-led analysis is rather deductive or passive as the template is developed and confined to the research questions located in the theoretical framework. Hence, by integrating this approach with some elements of Charmaz's (2007; 2008; 2009; 2011) 'constructionist' account of grounded analysis, hybrid analysis is constructed around and examined within the context of meanings, multiple realities and experiences to bring out the richness from the complex data (Braun and Clarke, 2006). Such an innovative or inductive analysis helps generate new themes from the raw data, in addition to the existing themes without trying to fit it in the pre-existing coding frame, or the analytic preconceptions (Frith and Gleeson, 2004). Hence, the hybrid approach integrates deductive and inductive analysis.

In my study, concurrently, the themes derived from both the deductive and inductive approaches were combined and grouped into categories in order to draw relationships between the categories. Some of the steps followed for thematic analysis are identified.

- Coding data into themes using NVivo.
- Clustering the themes at nodes into categories.
- Identifying and mapping the relationships between the categories.

Before outlining these steps, it is essential to distinguish between the unit of analysis and unit of coding as applied in the context of my case study.

Unit of Analysis and Unit of Coding

The first stage before coding the data, either manually, or using NVivo, involves selecting the data samples that generated the data. The data samples, or sources, were important as they focussed on the *unit of analysis* on which the coding was done. As Boyatiz (1998) identifies, *'the unit of analysis is the entity on which the interpretation of the study will focus' (Boyatiz, 1998, p. 62)*. On the other hand, the *unit of coding* has

been differentiated as, *'the most basic segment, or element of the raw data or information that can be assessed in a meaningful way regarding the phenomenon' (Boyatiz, 1998, p. 63).* According to Boyatiz (1998) the unit of coding can never be greater than the unit of analysis, as the unit of coding determines the comprehensiveness of the analytical insight into the unit of analysis. In my case study, m-banking constitutes the unit of analysis whilst the unit of coding highlights the levels of analysis- individual and organisational levels that are inherent in the research framework.

4.8 Coding in NVivo

The use of data analysis software, such as NVivo, provides a more comprehensive approach for storing and managing data for the coding process (Gibbs, 2002). In my study, NVivo was used to efficiently code the data at nodes, and it offered flexibility in coding and re-coding the themes whilst moving between the various data sets. Hence, it was an effective tool that considerably reduced the time involved for data analysis, in contrast to other manual coding techniques that perhaps would have taken longer when using qualitative data. The coding done within NVivo was based on hybrid thematic analysis that not only discovered existing themes from the data scripts, but also detected new themes in the data collected.

However, some researchers criticise the use of software, owing to the fact that computer programs cannot analyse the temporal sequence in data, and are inadequate to understand the implied meanings which depend on events in the specific context (Denscombe, 2010). I reject this criticism by arguing that software is used for data management purposes only, so the actual coding is still done by the human mind which captures the feelings, emotions and experiences of participants through another medium. Another argument presented here is that seeking the assistance of software for coding data may not necessarily curtail the interpretive process amidst assigning labels and meanings through the use of technology.

4.8.1 Developing Themes

The transcripts from interviews and focus groups were uploaded, as data sources, into the NVivo computerised data management programme. The transcripts were closely read several times, and after the first reading, a high level of abstraction was obtained, in reflection of the themes in the research questions. In the second round, specific words and phrases capturing a specific theme from the participant's own perceptions were encoded at nodes at the lowest level. Hence, the analysis of the text was guided although not confined by the preliminary codes, as the transcripts were coded, line by line, searching for repeated patterns in the text. Some themes were deductive- drawn on the interview themes or concepts whilst others were inductive that abandoned the influence from pre-conceived categories, or theoretical propositions in the framework. The new themes that emerged were coded at new nodes rather than placing them under the predetermined codes. Hence, hybrid analysis facilitated the development of new themes for theory reconstruction and development (Boyatiz, 1998).

Further, the coding decision revolved around the level at which the themes were identified- at the semantic (explicit) level or latent (interpretive) levels in the analysis. Hence, the analytical process was not merely descriptive through semantic analysis, but also latent with an attempt to theorise the significance of patterns in their broader meanings and implications (Patton, 2001). Thus, in this study, thematic analysis was not confined to data reduction, but drove the data analysis beyond the semantic levels towards the more interpretive levels.

4.8.2 Comparison and Clustering of Themes

The themes generated, after coding at nodes, were compared between multiple data sources in the study (Boyatiz, 1998). For instance, the theme 'lack of training' was identified and coded from different data sources and methods, and compared across themes from multiple participants- BISP staff, bankers, mobile operator staff and beneficiaries. Another example is that the theme- m-banking 'constraints' was also

analysed across various data sources and methods, but coded at the same node, so the integration across the data samples allowed for internal validity.

The final stage of analysis involved the 'clustering' of themes. As themes represented smaller sub-units of data, similar themes were grouped, or clustered into 'categories' at higher levels of abstraction. Essentially, the clustered themes were combined into an overarching category or 'super theme' (Boyatiz, 1998). Drawing on the previous example of the theme 'lack of training', this particular theme was clustered under the category of 'human constraints'. Nevertheless, most themes were able to fit into the existing categories for the analytical discussion- drawing on the theoretical propositions situated in the Duality of Technology framework. On the contrary, few themes were collated into new categories, for instance, 'capabilities development', so emerged as new concepts that extended the current framework in the study. Chapter 5 presents how the themes link to the narratives of participants in the BISP case study.

4.8.3 Drawing Relationships between Categories

The final stage in the analysis involved drawing relationships between the categories. This illustrated the linkages between the main categories that involved several iterations before an extended framework was proposed in the analysis. The new framework displayed the explicit relationships between the old and new categories in a conceptual model that integrated the new theoretical concepts. In doing so, it extended the research framework, as presented in Chapter 6 in relation to financial inclusion in the study.

4.9 Summary

In this chapter, the research philosophy was justified which permeates through the thesis from the theoretical perspective to the level of methods. Hence, the case study, as a methodology, is situated within the interpretive paradigm to outline the case and research design of the Benazir Income Support Programme in Pakistan. After providing an overview of the G2P programme, the case study methodology guided the collection of qualitative data, drawing on themes situated in the research questions that were

located in the Duality of Technology framework. Primary data was obtained from key stakeholders through a series of interviews and focus groups that were conducted from selected participants located in the research sites in Islamabad and Rawalpindi-Pakistan. The use of various data sources and methods in qualitative research contributed to the validity, reliability, credibility and generalisability of the conceptual outcomes in the case study findings. A critical account of my role in the research process highlighted the issues of axiology and reflexivity whilst following the ethical protocols during the field work. In the end, thematic data analysis, within NVivo, displayed how the data was coded into themes, and classified under categories. In the next chapter, the themes are linked to participant's narratives to present the findings in the case study.

Chapter 5: Case Study Findings

5.0 Introduction

This chapter delineates the research findings in the case study from the qualitative data following thematic analysis, as discussed in the previous chapter. The findings from the Benazir Income Support Programme in Pakistan are displayed as themes and clustered under the main categories that address the research questions. Some of the themes were situated in the interview questions whilst new themes were also extracted from the data sources during hybrid thematic analysis. The themes identified are linked to the original narratives of social actors and presented as findings in this Chapter.

As outlined in Chapter 3, the research questions are grounded in Duality of Technology (Orlikowski, 1992) framework, and the themes analyse the following theoretical propositions in the research questions below.

> RQ1) How is the social construction of m-banking design influenced by external and internal institutional forces in the BISP programme?
> RQ2) How does m-banking enable and/or constrain programme managers and women beneficiaries?
> RQ3) How does m-banking affect the institutional properties of households for structural change, or financial inclusion in G2P households in Pakistan?

In the light of these questions, abstract themes have been reformulated with specific reference to the unit of analysis in the data. As the perceptions of participants are analysed from a multitude of perspectives, this highlights the heterogeneity of opinions in interpretive research. The analysis converges interpretations from multiple data sources and methods that establishes validity, reliability and credibility in the research findings (Bryman, 2006; Lambert and Loiselle, 2008). Based on hybrid thematic analysis, new emerging themes evolved that extended the concepts in the analytical framework. This forms the basis for reconstructing theory and enunciates the theoretical and practical contributions in my research inquiry.

5.1 Socio-Economic and Demographic Profile of Beneficiaries

The socio-economic and demographic data represented the background information on women beneficiaries' social context for analysing their usage of m-banking, and its effects on the institutional properties of their households. It displayed characteristics related to age, education levels, family size and structure, dependency status, employment/skills and incomes of 16 women who were interviewed (illustrated in Table 5.1). The data showed that 10 out of 16 households comprised of nuclear families[16], with an average total family size of 9 members, including 5 children on average per household. A large majority of 14 women were unemployed, so were dependent upon their husbands' incomes. Mostly, their husbands were self-employed as rickshaw drivers, builders or fruit and vegetable hawkers- drawing an average monthly income of USD $101 (PKR. 9800). Hence, what emerged from the findings were that owing to beneficiaries' lack of skills, women were typically confined to domestic responsibilities rather than encouraged to seek work in labour markets. Their low representation in job markets reflected a slice from the national labour statistics- projecting a low female labour participation rate of 22.7 percent against the male labour participation rate of 83.3 percent in Pakistan (UNDP, 2013). Generally, this indicated that in rural settings, women were typically informally employed as home-based workers in agriculture, livestock, crafts and fishing (UNDP, 2013). Hence, it may be argued that gender inequality in labour markets led to the economic disempowerment of women in many households and communities in Pakistan.

Other demographic traits, illustrated in Table 5.1, presented that the average age of women beneficiaries in the interview sample was 40. The literacy levels were observed to be low- out of total 16 beneficiaries, 9 were completely illiterate, 6 had acquired some level of basic education, while only 1 had attended primary school with a qualification equivalent to GCE. These figures were in harmony with the national literacy rate (age 10+) where female literacy rate was 47 percent against the combined male/female literacy rate of 58 percent in Pakistan (Pakistan Bureau of Statistics, 2013).

[16] A **nuclear family** or **elementary family** is a family group consisting of a pair of adults and their children. This is in contrast to a single-parent family, to the larger extended family, and to a family with more than two parents.

Nos	Age (Years)	No. of Years in School	Dependent on Husband (Yes/No)	No. of Children	No. of Family Members	Nuclear Family (Yes/No)	Monthly Income[17] (USD)
B1	40	5	Yes	5	7	Yes	172
B2	50	5	Yes	6	8	Yes	67
B3	52	2	Yes	6	9	No	148
B4	54	0	Yes	6	9	No	86
B5	23	0	Yes	2	6	No	114
B6	46	0	Yes	9	11	Yes	57
B7	36	0	Yes	7	24	No	124
B8	31	5	Yes	6	8	Yes	124
B9	48	0	Yes	7	9	Yes	62
B10	41	5	Yes	5	7	Yes	67
B11	37	0	Yes	6	8	Yes	114
B12	38	0	Yes	7	9	Yes	57
B13	51	0	Yes	4	6	Yes	76
B14	31	5	No	2	7	No	138
B15	26	10	No	2	11	No	95
B16	30	0	Yes	6	8	Yes	114
	Average Age- 40	Completely illiterate- 9 Some level of primary education - 6 GCE level obtained- 1	Dependent- 14 Independent- 2	Average no. of children - 5	Average no. of household members- 9	Nuclear family- 10 Joint family- 6	Average Monthly Income=USD $101

Table 5.1: Background of Beneficiaries' Demographic and Socio-economic Data

[17] Based on Exchange Rate in February 2016- 1 USD = PKR. 104.91. The figures have been rounded to the nearest whole number.

The subsequent sections in this Chapter link the themes in the data to the narratives or quotations from participants. The next section is based on the first research question- the digitisation of m-banking, or the social construction of m-banking for delivering G2P payments- the answer to which is elicited from participants data in the study.

5.2 Digitisation of G2P Payments

The digitisation of G2P payments explicates the transition from cash to digital G2P payments, or m-banking in the Benazir Income Support programme in Pakistan. This category relates to the social construction of m-banking as discussed through the lens of Duality of Technology in Chapter 6. Initially, when the programme was launched in 2008, social cash was distributed to women beneficiaries by local parliamentarians in cash, or through money orders by postmen. However, in 2010, BISP shifted to technology- enabled innovative payments, such as, smart cards, mobile phones and debit cards. At present, it was found that around 94 percent of BISP beneficiaries received payments through digital channels (BISP, 2014).

One of the reasons why initial payments were made through the Pakistan Post was to increase the outreach of G2P payments to a large population of BISP beneficiaries residing in areas where bank branches were absent. As cited by the Director of Payments at BISP,

> One of the reason for the initial Pakistan Post payments were that out of approximately six thousand, seven hundred union councils, more than seven hundred union councils did not have any bank branch or bank. Later, we turned towards branchless banking because that was the only available option that would have large outreach in the country to conveniently serve the beneficiaries (Director of Payments, BISP).

Another purpose for introducing cash payments at the beginning of the programme was because they knitted into the socio-cultural tradition of women observing strict *purdah*, or veil that confined them to their homes. As beneficiaries received the cash payments at home, it maintained the existing social order without any explicit institutional re-structuring. The Director of Payments further validated,

> Another reason for having cash payments initially was that because the beneficiary was a woman, there was sensitivity in certain areas of the country where women were not allowed to step outside their homes to get their money. So in the beginning, we thought that it would be better to start with Pakistan Post. And then, at a later stage, when we know that beneficiaries' families have now understood the importance of BISP, they would allow women to have their own bank accounts and go out to withdraw their money- one of the main objectives of the programme was to empower women (Director of Payments, BISP).

However, over time, cash payments were replaced by digital payments through various technology-enabled platforms that extended the outreach of payments to a wider audience of poor beneficiaries. As a result, beneficiaries accessed their payments through different digital instruments- smart cards or mobile phones- across the country in the initial pilots. The data below suggests that m-banking was rolled-out in five districts in the country, but afterwards debit cards, as another digital payment device, were introduced by BISP. The Director General of Cash Transfers declared,

> Payments were initially done through the conventional system- Pakistan Post- because of their overarching presence across the country. Then we gradually started to move from the conventional system to technology-based systems. For that, we initially started the pilot of smart cards in 4 districts and then launched m-banking in 5 districts based on a pilot. On the basis of those pilot projects, we saw how much costs BISP had to incur, the facilities it was providing to beneficiaries, how easy it was for them to receive payments, and of course, the financial inclusion part. Last thing we provided was the Benazir Debit Card (Director General of Cash Transfers, BISP).

However, since m-banking was gradually phased out from the programme, the proportion of beneficiaries using mobile phones to receive G2P payments had reduced since 2012. As stated by the Director of Payments,

> According to data in 2012, we had 5% of mobile banking beneficiaries or 143,000 approximately, but now they are reduced to 2.54% from January to March 2014 because we have the replacement with the debit card (Director of Payments, BISP).

Hence, the data suggests that m-banking pilots were not very successful in the programme, and so were replaced with other digital technologies. However, within the research framework, it is pertinent to first discover the objectives behind the social construction of digital payments- via m-banking in the study.

5.3 External and Internal Institutional Forces

This section analyses the external and internal institutional forces within BISP that were instrumental in influencing the construction of m-banking that relate to '*the institutional conditions of interaction with technology*' and '*technology as a product of human action'* in relation to the Duality of Technology framework. It aims to address the first research question through the analytical lens of social actors- BISP officials, bankers, mobile operator and international donor staff who were involved in introducing m-banking in the programme. Table 5.2 displays the coded themes that have been clustered under the social construction of m-banking. Each theme is linked to second order data that is presented as original quotations from research participants in the study. The table further illustrates the external forces- political, socio-cultural, regulatory, economic and international forces that interacted with the institutional forces within BISP for the construction of m-banking in the study.

Political Forces	**Socio-cultural Forces**	**Regulatory Forces**	**Economic Forces**	**International Forces**
Government pressure	State citizenship	Branchless banking regulation	Profitable business case	International donor support and funding
Diminishing political power	Social identity	Bank-led model	Limited purpose accounts	Institutional strengthening
Political and security risks			Mobile handset funding issues	

Table 5.2: Themes Illustrating the Effects of External and Institutional Forces on the Social Construction of Mobile Banking

Source: Interviews

5.3.1 Political Forces

In connection to the research framework, political forces represented some *interpretive schemes* drawn by BISP managers for the construction of m-banking perceived as structures of *legitimisation* in the programme.

Government Pressure

Although certain politicians in the Pakistani Government resisted the switch to digital G2P payments, immense political pressure from the President coerced BISP management to make the political decision. The programme was politically significant as centrepiece of the Government's strategy in aligning with the MDGs for poverty alleviation. Since BISP was associated with a political tag, it was criticised by the civil society for buying political stardom. Nonetheless, political parties welcomed the transition to m-banking, as digital payments provided a secure delivery platform, especially in politically turbulent areas where the provision of security was critical during the disbursement of cash. The Executive Vice President of United Bank Limited remarked,

> I think we were lucky enough- the Finance Minister was against the idea but Chairman NADRA was very supportive of us, so he went to the President and Prime Minister and came back with the approval of shifting to digital payments. So I think that all those factors combined together, and security, put the pressure on the Government and BISP. Once the first m-banking project was done, there was no excuse for anybody to say why they wouldn't do it, and it makes a lot of sense in introducing it (Executive Vice President, UBL).

Moreover, the banking sector, recognised a potential business case in disbursing electronic G2P payments, so successfully convinced the President, who pressurised the Chairman of BISP to disburse digital payments. As verified in the quote below, neither BISP nor donors were willing to fund handset costs for the project, so the responsibility fell upon banks to bear the costs of providing mobile phones to millions of beneficiaries in the pilot projects. As expressed by the Executive Vice President of a Bank,

> So I was invited to a meeting with the President and he also started telling BISP folks that you need to move quickly on the digital payment side. The Government of Pakistan was not willing to fund mobile phones, neither any donor agency was willing to fund handsets because it was a political issue at that point in time. So we went ahead and we gave about sixty thousand mobile phones in one district free of cost to people at our

> expense, and ran that project of mobile phone based payments (Executive Vice President, UBL).

So it is deduced that an interplay of combined political and economic forces influenced BISP management's decision to shift from cash to mobile payments.

Diminishing Political Power

As presented earlier, the targeting of poor households for distributing G2P payments was initially entrusted to local parliamentarians. However, in the transition to digital payments, households were objectively targeted through the poverty score-card survey that automatically eliminated many underserved families from the beneficiary list. The prescribed method for the survey was a door-to-door census. Through this method, a deliberate attempt was made to side-step the conventional use of local patrons, or politicians, as informal intermediaries between BISP and beneficiaries. Although local patrons, or politicians were not completely absent from the process, they remained peripheral in most cases due to the strong message for universal enumeration in the survey process and training.

Survey enumerators visited each household, although in many instances it was learnt that they selected a central location in the village or community where community members could come and have their eligibility forms filled out. Although this may have excluded certain households, who may have had differences with local politicians, or power brokers, the majority of beneficiaries flocked in the communal spaces to get their poverty score-card forms filled by enumerators who had no particular affiliation with a specific political party.

Hence, many parliamentarians were upset with the change as it stripped their political powers and diminished their control, popularity and authority in their regional constituencies. Previously, as politicians distributed cash to favoured or handpicked households, the objective targeting for delivering mobile payments had considerably shrunk their power base which adversely affected their vote bank in future elections. The poverty score-card was neutral to specific qualitative dimensions of marginality and exclusion, including, local power relations, status, kinship, provincial identity and

religious minority that had registered genuine beneficiaries into the state welfare system. This was a rare instance of a social intervention that proactively and impartially reached out to all deserved households across the country. In this context, the Director General of Cash Transfers remarked,

> Credit goes to the political government who agreed to shift to m-banking. It was not an easy political decision because around 2.24 million beneficiaries were getting money from politicians. So it was a difficult time for any political government to remove beneficiaries from the list, who were identified by parliamentarians, as moving from community-based targeting to poverty score-card targeting was a potential threat for local politicians (Director General of Cash Transfers, BISP).

So while there was tremendous support from government officials at the federal level, provincial parliamentarians resisted the shift to digital channels, including m-banking, in the selected districts for BISP disbursements.

Political and Security Risks

Although m-banking, on one hand, provided a secure channel for disbursing large volume of G2P payments in remote populations, on the other hand, in certain political volatile regions of the country it posed security risks. There were political and security concerns that mobile phones may fall into the wrong hands of terrorist networks in supporting money laundering and unlawful activities in the country. Hence, BISP and regulators were gravely concerned that the provision of mobile phones to vulnerable segments of the society might breed illegal activities such as terrorist financing. As a result, strict regulatory controls were implemented by the State Bank of Pakistan (SBP) to ensure security checks in political turbulent areas. A BISP Director exclaimed,

> The State Bank of Pakistan ensured that there was no illegal transfer of money, so they kept an eye on the accounts- to whom the money was being dispersed to, especially for security reasons, so that money was not sent to banned terrorist groups or individuals involved in such activities! (Director of Payments, BISP)

In the same vein, a mobile operator manager relayed his concerns related to the regulator, Pakistan Telecommunication Authority (PTA), regarding the use of mobile phones by banned terrorist organisations in Pakistan. Whilst mobile phones are perceived to be a potential threat at times of high security alert in the country, PTA remains vigilant and

shuts down mobile services for consumers that drastically affects mobile operators' revenues.

> During political instability, there is high security alert so PTA shuts down mobile services due to security concerns. This affects the revenue of mobile operators causing losses of millions to the telecom industry. Also, PTA is vigilant for money laundering cases to prevent terrorism financing causing security threats in areas of political turbulence. So there are controls in place in compliance to the branchless banking regulations (BISP Liaison Manager, Telenor).

5.3.2 Social and Cultural Forces

Social and cultural forces are identified as some of the norms, or practices that are embedded into the design of m-banking by BISP management.

State Citizenship and Social Identity

BISP made it compulsory for all women beneficiaries to register with the National Database and Registration Authority (NADRA) that issued computerised national identification cards (CNICs) required for receiving mobile payments. Against the general expectation, even the most conservative women observing *purdah* (veil) stepped out of their homes to get their photographs taken by NADRA for registration with BISP. This was an effective step towards the empowerment of women undertaken by BISP for the social inclusion of beneficiaries. Therefore, the possession of the identity cards bolstered women's personal and social identities, as the new biometric entries in the NADRA database recorded beneficiaries who were able to access services from other government programmes. These first encounters of women with the state were devoid of any disempowering experiences, as there were no accounts of beneficiaries being harassed in government offices. The Director of Payments expounded,

> There was a lot of scepticism that women folk will not come forward for getting their photographs done for the identity cards because we said that we'd do the biometric authentication using NADRA's database. Nevertheless, we went ahead and the digital payments became a roaring success (Director of Payments, BISP).

Therefore, m-banking achieved social cohesion by defining the rights and entitlements of previous marginalised women as state citizens. The mandatory requirement of the

national identity card to receive BISP payments reflected positively on the social indicators, as highlighted by the Director General of Cash Transfers.

> The Government of Pakistan was given targets regarding the payments to beneficiaries, and we almost have 5.3 million identified beneficiaries who have CNIC. Out of those beneficiaries, around 4.3 million receive electronic modes of payment, and the remaining 1 million possess the identity card, are eligible beneficiaries, but do not receive electronic modes of payment. However, the social inclusion indicators look good (Director General of Cash Transfers, BISP).

Hence, within many conservative and male dominated households, new social practices emerged- via m-banking that sanctioned those beneficiaries, who previously faced mobility restrictions, to step out of their homes to collect payments. Socio-cultural forces legitimised new norms or rules that were embedded, or interwoven into m-banking design, and sustained through moral order without clashing with the stereotypical practices that were prevalent in certain traditional G2P households in Pakistan.

5.3.3 Regulatory Forces

The regulatory forces constituted the rules and resources that influenced BISP management's decision to shift to m-banking platforms for disbursing G2P payments in the programme.

Branchless Banking Regulations

The analysis evinced that regulatory forces, such as branchless banking regulations issued in 2008 by the State Bank of Pakistan, provided an enabling environment for banks to collaborate with mobile operators to deliver G2P payments on behalf of BISP. Hence, the regulatory framework underpinned the creation of the m-banking infrastructure that facilitated BISP in disbursing G2P payments to financially underserved and remote populations. Therefore, branchless banking platforms increased the outreach of G2P payments to beneficiaries- via m-banking as commended by the Director of Payments,

> Initially, we did not have branchless banking in our country- the branchless banking regulations were just formulated by the State Bank of Pakistan, so previously, there were no agent networks through which digital payments- via m-banking- could be made. So definitely, Pakistan Telecommunication Authority and State Bank have fully supported us (Director of Payments, BISP).

Another narrative was presented by a mobile operator director who criticised the role of banks in delimiting financial access in the branchless banking industry, but applauded the role of mobile operators in being more proficient to serve G2P beneficiaries across the country.

> Banks cannot serve large G2P populations…let me tell you….how will they do it? There are no branches that banks can put up- it's only branchless banking players that are suited for this. So banks, solely, can't serve beneficiaries, unless they collaborate with the mobile operator industry (Director, Easypaisa).

Bank-led Models

Although branchless banking regulation supported a variety of business models, many banks created their own agent networks to disburse G2P payments rather than utilise mobile operators' retail outlets. The bank-led model was telco-agnostic[18] in allowing beneficiaries on any mobile network to cash-out at agent locations that were exclusive to banks, or mobile franchise outlets. This business arrangement limited beneficiaries' access to agents, especially in rural communities, where banking agents had thin presence. As stated by the Assistant Manager at Summit Bank,

> In the bank-led model, the touch points for cash withdrawals are only limited to the franchise or agent network of our partner organisation- namely Ufone- for distributing G2P payments through mobile banking channels (Assistant Manager, Summit Bank).

Hence, as indicative in the research sites of Islamabad and Rawalpindi, the bank-led model offered limited pay-out junctions for beneficiaries that was confined to withdrawals at either Summit Bank branches or Ufone franchises. This design restricted beneficiaries' access to financial services in offering fewer cash-out points in comparison

[18] A service is independent of any individual mobile network or should work independently with any of them.

to others districts. In Battagram, for instance, BISP's collaboration with Telenor/Tameer Bank significantly served a larger beneficiary base through Easypaisa- the mobile operator-led model that had a wide-spread retail base. Although regulator's efforts were praised in supporting the m-banking infrastructure for BISP, they were also criticised by mobile operators for playing a rather passive role in supporting the G2P payment sector in Pakistan. As the Director of Easypaisa exclaimed,

> Pakistan Telecommunication Authority and the State Bank have been recognised and celebrated as very good regulators- in terms of their vision of how to go about things and the balance that they've maintained between banks and telecoms in this entire effort. On the G2P side, there's nothing that regulators have done as much as we want- G2P payments was a Government initiative and not a State Bank initiative. We've been pushing both regulators for a long time to digitise all G2P payments in this country, and the benefits are going to be huge, but I'm surprised that nobody has the vision to do anything in that area. So have the regulators been beneficial for G2P? Not really, they've just sat back! (Director, Easypaisa)

5.3.4 Economic Forces

The economic forces constituted the resources provided by financial actors in determining the transition to m-banking for disbursing mobile payments to beneficiaries in the case study.

Profitable Business Case

Whilst the initial set up costs for establishing the agent infrastructure was high for banks, in the long term, it was cost-effective for them to make digital payments in order to cover a wider segment of beneficiaries registered with BISP. Thus, m-banking enabled economic actors, or financial institutions to serve a large beneficiary base, residing in areas that were inaccessible by postmen, or where opening a conventional bank branch would have been more costly. This was justified by an Assistant Bank Manager,

> The setting up of branchless banking channels, through agent networks, to serve the unbanked segment is a viable solution for economic entities, as the cost of setting up a branchless banking channel is at least 75% lower than setting up a bank branch (Assistant Manager, Summit Bank).

This viewpoint was endorsed by other bankers who made it unequivocal why digital channels made sense for banks to disburse G2P payments. The provision of low value

individual accounts to millions of beneficiaries delivered a profitable business case for banks, who achieved economies of scale through the large volume of transactions. Additionally, regular government fees and float[19] earned by banks provided financial incentives, despite the high costs for providing handsets and acquiring and managing new agent channels. The Director of Payments confirmed that in certain regions banks were chiefly responsible for funding mobile phone costs to beneficiaries.

> As per agreement, banks are required to fund handset costs and credit the money into the beneficiaries' accounts within five days. Once the beneficiaries' accounts get credited, not all of them withdraw their money at once, and since their account is a non-salary account, they by default earn float. Also, we are paying 3% of the dispersed amount as service charges to banks, so they have a strong business case with us (Director of Payments, BISP).

Further, the Executive Vice President of UBL explained how banks benefitted if allocated a large case load of beneficiaries by BISP. Hence, m-banking provided opportunities for banks to strengthen their business cases by penetrating into the G2P customer base for increased profits.

> Just because of the sheer volume of payments, it becomes meaningful for us to stay interested in the G2P business, so we would love to move every single payment onto our platform and be the platform of choice for all Government programmes- be it Federal or Provincial (Executive Vice President, UBL).

Limited Purpose Accounts

Data analysis revealed that banks provided limited purpose accounts with limited functionality for beneficiaries. Since the accounts were merely conduit accounts and confined to withdrawals only, beneficiaries did not have access to a fuller spectrum of m-banking services, including money transfers, deposit of savings, or access to credit or insurance. As highlighted in the quote below,

> Beneficiaries have limited purpose bank accounts to receive the payments, in fact, these are rather conduit accounts because they are not allowed to carry out other transactions- they cannot receive or deposit money in that account, or get credit from banks (Director of Payments, BISP).

[19] Float is defined as duplicate money present in the banking system during the time that elapses between when a check is deposited into a bank account and when the funds are available to the recipient, during which period the bank is collecting payment from the sender's bank. It can also be used as an investable asset, but makes up the smallest part of the money supply- adopted from the financial dictionary.

For most banks, although the provision of low value accounts did not offer opportunities for them to earn some profits through savings, yet, more business was afforded to agents who had signed up for dispensing G2P payments. However, managing liquidity issues, especially in remote areas, became critical for some agents that was exacerbated by the deficient transport infrastructure in remoter communities, as agents occasionally visited banks to rebalance the cash liquidity. This created problems for both agents and beneficiaries, especially, after the grant was credited into beneficiaries' accounts. In this context, the Executive Vice President of UBL recounted,

> Each new programme gave me an opportunity to expand the Omni agent network and for the agents to earn good money, although at time, agents faced liquidity issues that had to be managed. There was no time to prepare a rigorous business case for BISP, although the high political profile of the programme meant that there was a high risk of the bank's brand being exposed to damage unless managed carefully (Executive Vice President, UBL).

Mobile Handset Funding Issues

Whilst certain economic forces influenced the construction of m-banking into the Benazir Income Support Programme, other factors were instrumental in replacing m-banking with the Benazir Debit Card (BDC). This primarily concerned the provision of mobile handsets to millions of G2P beneficiaries that was exorbitantly expensive beyond the m-banking pilot stages. As the data epitomises, BISP management did not bear the financial responsibility in funding mobile phones, so the costs were borne either by banks or mobile operators. As confirmed by the Director of Payments at BISP,

> When we started mobile phone banking, we had a contract that mobile phones were to be provided either by the banks or mobile operators, and hence, BISP did not provide mobile phones to beneficiaries. But afterwards, m-banking was found to be expensive for expanding into other regions (Director of Payments, BISP).

In the research sites of Islamabad and Rawalpindi, the mobile operator, Ufone, funded mobile phones to approximately 50,000 beneficiaries (see Appendix 4). As inscribed in the data, the provision of mobile phones to beneficiaries nationwide was foreseen to be less cost-effective in comparison to other electronic tools, for instance, debit cards. As claimed by the Executive Vice President of UBL,

> So we went ahead and gave around sixty thousand phones in one district, free of cost, to people at our expense. The cheapest mobile phone would cost around USD $12, but a plastic card would cost just over fifty cents? So debit cards are the most cost effective instrument- it's certainly way cheaper than a mobile phone (Executive Vice President, UBL).

A similar viewpoint was echoed by the Director of Payments at BISP,

> The biggest problem we encountered with the m-banking projects were that the mobile phone costs were too much that could not be met. That would mean that we would have had to finance over five million mobile phones, but in our pilots, banks and mobile operators were financing the mobile handsets and SIM's and they were not ready to finance it nationwide. Mobile phones were far too expensive- that is why they were phased out as they were not affordable by anyone (Director of Payments, BISP).

Therefore, data from various social actors validates the argument that owing to high economic costs and political risks, m-banking was not feasible and sustainable, so gradually was replaced by debit cards. This reflected upon *interpretive flexibility* as technologies were appropriated and reconstructed by BISP management.

5.3.5 International Forces

The international forces represented the rules and resources, drawn from foreign donor agencies that were embedded in the design of m-banking.

International Donor Support and Transparency

Data analysis explicated that BISP management faced mounting pressure from the international donor community to digitise G2P outflows in the programme. Since international agencies were important stakeholders, their technical and financial assistance in designing the poverty score-card for objective targeting of beneficiaries was critical for the execution of digital payments. Hence, international donors supported BISP's efforts in achieving transparency for disbursing G2P payments- via m-banking. The Director General of Cash Transfers at BISP proclaimed,

> International donors got involved in the targeting of beneficiaries and they provided technical and financial assistance for the m-banking payment mechanism as well. Donor assistance was always there and they insisted on moving to systems that were transparent

> and financially inclusive- the World Bank, DFID, Asian Development Bank and USAID- are all donors working closely with us (Director General of Cash Transfers, BISP).

Institutional Strengthening

Moreover, it was found that the transition from cash to mobile-based payments was associated with the institutional strengthening of the organisation- BISP. At the institutional level, international donor agencies pressed for greater accountability within the G2P payment system, as foreign forces played an instrumental role in designing mobile payment platforms. This shift to m-banking also fortified the United Nations developmental agenda in Pakistan in connection with the empowerment of women to reduce gender-based inequalities through the use of ICTs or mobile phones. As claimed by a DFID Director,

> For DFID, it is important that there is transparency in the delivery of social cash, but also that there is institutional strengthening in systems in BISP so that there is also good accountability. We have invested three hundred million pounds until 2020, but it is important that there is a move towards electronic payments, including m-banking which BISP itself is committed to (DFID Director).

In relation to Duality of Technology, the data inscribed in the themes validated how the social construction of m-banking was determined by a diverse set external and internal institutional forces- resources, norms and rules that were reified in m-banking design. These findings will be interpreted through DoT at the theoretical level in Chapter 6.

5.4 Enabling and Constraining Effects on Social Actors

This section of the findings seeks to answer the second research question, relating to *'technology as medium of human action',* within Duality of Technology in exploring how m-banking enabled and/or constrained technology designers (BISP programme managers) and users (women beneficiaries). The themes illustrated present a holistic view on how m-banking conditioned G2P practices for social agents. The level of analysis focuses on the perceptions of individual BISP managers and women beneficiaries as articulated within the DoT framework.

5.4.1 Programme Designers' Perspectives

Analysing the themes coded from interviews with BISP officials, working at the strategic, managerial and operational levels, unveiled how m-banking enabled and/or constrained managers. Other perspectives from bankers, mobile operator and international donor officials were integrated into the analysis to validate the findings in the study. Table 5.3 illustrates the themes that were mapped from the interview guide to arrive at the conceptual outcomes in relation to the second research question.

BISP Managers	**Social Effects**	**Technological Effects**
Enabling Practices	Replacing human intermediaries with technology	Transparency Visibility Live reconciliation Complaint redress
Constraining Practices	Dependency on bankers	Design inefficiency Inability to attain donor targets

Table 5.3: Themes on Enabling and Constraining Effects of M-banking on BISP Managers
Source: Interviews

Social Effects

Replacing Human Intermediaries with Technology

The findings showed that beneficiaries' mobile accounts acted as a landing spot to receive digital payments from BISP. As m-banking delivered G2P payments directly into beneficiaries' mobile accounts, it replaced previous human intermediaries, postmen or politicians, with technology. In doing so, technology established a direct link between BISP officials and women beneficiaries. This was expounded by the Director General of Payments at BISP,

> Pakistan Post mechanism was totally dependent upon human interaction, but the code we generate is received in beneficiaries' mobile phones directly. So unless the code is entered, the payment cannot be released. We have minimised the human interface and have brought technology in between that ensures that the beneficiary has come into direct contact with us (Director General of Payments, BISP).

However, interestingly, it was found that m-banking did not completely remove the previous middlemen, but rather replaced them with banking agents. As women were dependent upon banking agents for cashing-out their grants, m-banking embedded new structures of power, authority and legitimacy within BISP communities. As further exclaimed,

> Although m-banking connected the provider with the payee, it did not completely remove the human element, as there was dependency on the banking agent now! (Director General of Payments, BISP)

Technological Effects

Transparency and Visibility

Prior to the implementation of m-banking, there were grave concerns that cash payments, owing to corruption, did not reach the deserving household. Some parliamentarians and postmen pocketed the money, or demanded *baksheesh* (bribes) from women beneficiaries to ensure the delivery of future payments. Hence, previously, there was a disconnection between BISP managers who worked at the head office and the grant disbursement officials who paid out the cash. In this respect, m-banking enabled BISP managers to tackle one of the most perceptible challenges in achieving transparency in payment channels. Thus, technology streamlined the G2P delivery channels to ensure that beneficiaries received the promised amount of grant. Thus, mobile technologies may be conceived as part of the disciplinary mechanism for BISP that attempted to improve accountability in G2P delivery. This analysis can be understood from the governance objective, as symbolised by the Director General of Cash Transfers at BISP,

> The primary objective of m-banking was to ensure transparency because there were transparency issues involved in making payments through the Pakistan Post. We were getting news that the postmen were involved in corruption, so we implemented technology-based systems, or m-banking, hoping that the deserving beneficiaries would get the total amount from us (Director General of Cash Transfers, BISP).

Another senior BISP official echoed that m-banking initiatives were measures undertaken to enhance the visibility in making payments by political actors,

> Mobile banking was adopted for the real-time visibility of payments, so beneficiaries were instantly informed when the money was transferred into their accounts. Pakistan Post had problems with visibility, as after 3 months, we got to know about the money status. So the digitised tool informed us about the status of payments immediately (Outreach Manager, BISP).

Hence, visibility for discipline, lied at the core of technology-enabled platforms that improved communication and service delivery for BISP officials. The complexity of this disciplinary mechanism- via m-banking engendered greater dialogue between the state, foreign and beneficiary actors. Quite noticeably, there was also some conflict of interests within BISP officials on the digitisation of G2P payments. Whilst it was evidenced how m-banking facilitated BISP officials in the routinisation and standardisation of the grant disbursement process, at some instances, it was perceived to be at odds with some BISP staff who lost their autonomy through this process. This was further explicated by a BISP Manager who expressed his personal resentment towards the shift from cash to digital payment platforms for disbursing social cash.

> But there is a handicap with m-banking that we are dependent upon the information provided to us by banks, so we are bound and feel rather restricted- everyone does not have real-time information, so we get the picture that is dictated to us by banks! (Outreach Manager, BISP)

This narrative suggested that within the programme, m-banking, apparently, disturbed the power equilibrium between BISP officials and bankers. Since technology transferred more control and authority to bankers, some BISP mangers felt powerless as they were solely dependent upon bankers for providing information on payment status. However, this questioning may just be an excuse where state officials do not wish to account to stakeholders, beneficiaries, or other interest groups in the programme. This may spark an entirely separate debate on how technology produces and reproduces structures of power, authority and control within organisations that may favour and/or disfavour certain socio-political actors in the m-banking ecosystem.

Live Reconciliation and Complaint Redress

Contrary to the above analysis, the findings evinced that m-banking enabled BISP managers in the live reconciliation of payments. Managers relied on formal reporting tools to receive accurate data and information on beneficiaries' payment statuses in the most efficient manner. Hence, the automated payment system provided managers access to reliable, real-time data that was consistent with the information shared at the BISP regional offices. At the administrative level, it enabled officials to check and confirm beneficiaries' payment information details in real time. As stated by the Director Operations,

> As it is a real-time system, the staff at BISP can check whether the money has reached the beneficiary or not (Director Operations, BISP).

At the users end, m-banking also enabled beneficiaries to check their payment details, and if there were any noted incidents of missed or delayed payments, beneficiaries could directly register their complaints with BISP field officers. This was mirrored in the words of the Director General of Payments at BISP,

> So m-banking gave us an edge that we could communicate with each beneficiary regarding her payment status. Before, Pakistan Post provided reconciliation after 3 or 4 months, and even in that, there were errors. In the digital delivery mode, there is no time lag and as it is a real-time system, we get real-time information on reconciliations- that is- whether the money has reached the beneficiary or not after disbursement (Director General of Payments, BISP).

Quite logically, it was observed that through the new mobile payment platform, beneficiaries' complaints were registered and efficiently resolved. As a result, there was a considerable reduction in the number of complaints recorded that diminished the administrative burden of BISP officials handling complaints manually. The Director General of Payments at BISP avowed,

> Initially, we did not have any state-of-the-art system for complaint redress- situational complexities started creeping in, and then we received complaints that postmen 'devour' money. So there was a mandatory requirement that a complaint redress mechanism needs to be in place- m-banking has resolved it now and the number of complaints are significantly less (Director General of Payments, BISP).

Therefore, it was reflected that m-banking ameliorated the reporting rates and service delivery of payments in ensuring that an effective feedback system was in place between BISP officials and beneficiaries in the programme.

Efficiency and Security

The findings disclosed that m-banking afforded efficient delivery channels, visibly reducing transfer time as the grant money instantly reached beneficiaries' accounts. Hence, it enabled BISP managers to transfer large volume of payments in the most efficient manner to beneficiaries who resided in far flung areas of the country. It is acknowledged that this feature is annotated to digital payments that mitigates the intermediary steps in the disbursement process. The Director of Payments professed,

> The move from cash based payments to digital payments, or mobile banking, in the delivery of G2P ensures that payments are delivered to the actual beneficiary in a secure, quick and most efficient manner (Director of Payments, BISP).

Furthermore, the Director General of Cash Transfers resonated that m-banking facilitated BISP officials in serving millions of beneficiaries through secure payment modes. This was deemed critical, especially in regions, where political volatility was a potential threat for the disbursement process, amidst the security arrangements in the affected localities.

> M-banking provides a secure mode for making large volume transactions to beneficiaries in political volatile regions, and the monitoring system is overarching and efficient (Director General of Cash Transfers, BISP).

Technological Constraints

Design Inefficiency and Inability to Attain Donor Targets

As the information system for transferring G2P payments was constructed in a sequential fashion, over time, the software was updated in phases to overcome any teething problems. However, owing to its inflexible design, m-banking also constrained BISP staff.

> Since we are talking in relationship to technology, I would like to mention that the payment software at the back-end has developed gradually, so the software was updated accordingly. But the problem is that the software hasn't been completely conceived- it is like the house that has been constructed in bits and pieces, so there is bound to be something less than perfect. We are grappling with those problems, and it will take some time before we come up with a system that is very flexible and caters to all kinds of situations (Director General of Payments, BISP).

The discourse presented here is that although m-banking was socially constructed and enacted by BISP officials, technological design constrained certain practices for managers. Moreover, m-banking was perceived to be emergent as the software was improvised through usage, and hence, it evolved over time. A BISP official affirmed,

> Although the money was given by the Government in one instalment only, there were multiple donors like USAID, World Bank and Agricultural Development Bank (ADB), so money coming in from multiple sources. When we started disbursing that as well, it became challenging for us because we weren't tagging the payments by source. For auditors, there was some overlapping that represented a double payment, although it wasn't a double payment, but simply a reporting problem and inefficiency in the payment system (Director General of Payments, BISP).

Furthermore, on a critical standpoint, the compulsion of possessing identity cards in order to receive G2P payments excluded those beneficiaries from the programme who refused to register with NADRA. The strict compliance to this condition constrained BISP management to meet the poverty alleviation targets set by the International Monetary Fund (IMF) in congruent with the Millennium Development Goals. The Director General of Cash Transfers remarked,

> Though we were not able to achieve the initial target set by the IMF because of the decision to make payments only through electronic modes to beneficiaries, we faced lots of pressure from different quarters. So we told IMF that if you want us to make the payment, regardless to whom it reaches, we can make it through the Pakistan Post, but if you want the money to reach the deserved beneficiaries, then we will only make digital payments (Director General of Cash Transfers, BISP).

Hence, I argue that despite constraining management practices, the enabling effects of m-banking were more beneficial for BISP management. I will further interpret these findings through the Duality of Technology lens in Chapter 6.

5.4.2 Women Beneficiaries' Perspectives

This section of the analysis highlights how m-banking conditioned practices for women beneficiaries through the enabling and/or constraining effects at the individual level. Women beneficiaries' perspectives were constructed through their interpretive frames. Common themes emerging from the data from interviews and focus groups were collated to interpret the social realities from beneficiaries' interaction with technology for receiving G2P payments. The perspectives from other social actors were also corroborated from the data to validate the findings from the analysis. Table 5.4 displays the prominent themes after mapping them from data sources in light of the research questions.

Women Beneficiaries	**Human Effects**	**Social Effects**	**Technological Effects**	**Infrastructural Effects**
Enabling Practices	Innovative practices Social/voice communications	Convenience Flexibility Full payments received Agent trust Symbolic tools of freedom	SMS notifies payments	Multiple cash-out points
Constraining Practices	Digital / financial illiteracy Inability to use mobile phones Absence of skills and training Technophobia User unfriendly interface	Family friction Agent fraud High socio-economic costs	Mobile phones lost, damaged or sold SIMs blocked or lost Mobile accounts not registered against ID name	Limited footprint of agents Weak signal coverage Power outages Handset charging problems

Table 5.4: Themes on Enabling and Constraining Effects of M-banking on Beneficiaries
Source: Interviews and Focus Groups

Enabling Effects

Convenience, Flexibility, Security and Full Payments

The findings explicated that m-banking enabled beneficiaries to receive G2P payments after receiving a notification- via SMS on their mobile phones. The text message embedded the personal identification number (PIN) that was only known to the beneficiary for security reasons in ensuring that payments were received by the deserved beneficiary only. For every monthly payment received quarterly, the unique PIN code was different that mitigated the risks of fraud, as the code was revealed only to agents by beneficiaries during the receipt of payments.

> I get a text message on my phone every three months, so then I know that the money has arrived. I can make out that the message is from BISP, and it has a PIN, but I don't know the other details- the agent knows more- I know this much that my money is secure (Beneficiary 8).

Many beneficiaries welcomed mobile payments over cash payments as they no longer had to pay bribes to the local postmen to ensure the delivery of future payments. Thus, women started receiving the full amount of payments. Moreover, cashing-out at agent locations was flexible and convenient for them in comparison to travelling long distances to the nearest bank for collecting payments. Since beneficiaries' details were verified through their identity cards, m-banking reduced the risks of agents paying out grants to unregistered beneficiaries so provided enhanced security features.

> I go to the agent to collect my grant and spend money on the travel, but it's still convenient for me, as I can go anytime. I know the agent gives me all the money- he's a nice man, but once I forgot to take my identity card with me, and it was a problem, as he didn't give the money, so I had to go again (Beneficiary 9).

This narrative is endorsed by a BISP official who also avowed that mobile payments provided convenience and flexibility to women in collecting their full grants over a longer time period.

> The beneficiary does not have to go to the bank to get her money- she can go to the nearest agent, or franchise retailer for money withdrawals. Although m-banking has given her flexibility and convenience, she also has the confidence now in receiving the full payment from us (Director Operations, BISP).

Similarly, a banker also recounted how m-banking facilitated beneficiaries in cashing-out their G2P payments.

> On a particular date, you will get an SMS that will give the withdrawal code. So, you go to an agent location, give your withdrawal code and CNIC number, and the transaction will be authenticated…and you walk away with your money…it is as convenient as that (Executive Vice President, UBL).

Human Constraints

Low Levels of Digital and Financial Literacy

The demographic data on beneficiaries, as shown in Table 5.1, presented that the majority were mostly illiterate, unable to read or write completely, whilst few were semi-literate as they had received some basic levels of primary education. Although the text message received on mobile phones was in the national language, *Urdu*, owing to low levels of digital and financial literacy[20], many women still struggled to read or understand the symbols, icons, or numbers associated with the text message and PIN. Such lack of literacy constrained m-banking usage as expressed by a beneficiary on her inability to comprehend or use the functionalities on the handset independently.

> I have not ever been to school, so it is difficult for me to use the mobile phone. Initially, I didn't even understand the purpose of getting a phone, but then my daughter, or son would show me which buttons to press and still I could barely manage. I cannot read the message, write messages, or even receive calls- its functions are complicated…I feel handicapped (Beneficiary 2).

Similarly, another beneficiary echoed,

> I don't use my mobile phone for anything and I can't even make a simple phone call. It's difficult for me to use it and handle a thing like that. Yes…had I been literate then maybe it would have been simple and easy for me to use my mobile phone and not be dependent upon anyone…right? I have not even tried to learn how to use it, and so I just take it with me when I go to the agent for collecting the grant (Beneficiary 12).

[20] Financial literacy is commonly defined as the 'combination of consumers'/ investors' understanding of financial products and concepts and their ability and confidence to appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being' (World Bank, 2009, p.2).

Hence, these narratives implied that beneficiaries were limited by their capacities, and these 'effects' were identified as human constraints that posed several difficulties for usage. Under this scenario, beneficiaries typically sought help from more literate members in the family or community to read the text message, or make calls on their behalf. Hence, the need for intermediation was obligatory to navigate around the challenging processes for acquiring G2P payments. Moreover, owing to their individual limitation, the incapability to use the mobile phone was labelled as a 'handicap' by many beneficiaries. This perception is reinforced through the narrative of a mobile operator official who exclaimed,

> Literacy is a big barrier in Pakistan and not everybody is able to use a mobile phone. In fact, none of these beneficiaries are literate and none have mobile phones. We did an initial survey to see how many people can even read and write and the numbers were terribly off! (Director, Easypaisa)

In nexus to the literacy barrier, other important findings that emerged were that beneficiaries did not receive any formal and/or informal financial and digital education, or training on mobile phone usage from BISP field officers prior to receiving their handsets. Neither were there any social mobilisation campaigns organised or launched at local levels to increase their awareness levels in handling financial transactions through complex mobile channels. This of course exacerbated the situation for many beneficiaries as their inabilities to use mobile phones enacted structural constraints in technology. A beneficiary complained,

> Field officers did not tell us how to make or receive calls, or check messages on mobile phones for receiving payments. So I find it hard to use my phone and ask my son to help- even if it involves dialling a simple number to talk to someone (Beneficiary 3).

Nonetheless, the fact that management was oblivious in providing training to beneficiaries was perceived as an institutional constraint, as confessed by the Director of Payments,

> We did not have the capacity to provide any training. Honestly, we did not have the facilities….so what we did was that we provided brochures and leaflets to beneficiaries that contained pictorial manifestation of the process. But if you specifically mean training, it wasn't there (Director of Payments, BISP).

Hence, the implementation challenges of m-banking lacked the vision of a socially contingent development policy that impinged the delivery of mobile payments. Further, some beneficiaries expressed their fear in interacting with new technologies as they were techno-phobic, so afraid of losing their payments by accidentally deleting the text messages. As a result, beneficiaries preferred not to carry their phones in case it got stolen or lost to create serious consequences on the receipt of payments. A beneficiary remarked,

> I would never carry my mobile phone…..I was once carrying it when it started beeping and I just didn't know what to do with it! So it is mostly at home- sometimes with my daughter or with someone else (Beneficiary 1).

However, the challenges arising from beneficiaries' low digital and financial literacy levels were also narrated through the interpretive frames of mobile franchise staff. Franchise agents were typically aware of the common problems faced by many beneficiaries and highlighted some explicit measures that facilitated the payment delivery process.

> As beneficiaries coming to us are usually illiterate, we have to guide them completely. Also, when they speak to the helpline or customer service staff, after disclosing their mother's maiden name, the rest of the information is mostly provided by us to assist them in every possible way (Franchise Manager, Ufone).

User Unfriendly Interface

In the words of the Director of Payments, it was accentuated that m-banking was not user friendly for women, as compared to men users who apparently were more technological savvy in using m-banking features.

> But you have to keep in mind that our beneficiaries are basically women, and technology is more 'male' friendly (Director of Payments, BISP).

This viewpoint was also resonated by the BISP Liaison Manager at Easypaisa, who drawing on his vast work experience in the telecom sector, claimed that men were more comfortable in using mobile phones than women from similar socio-economic backgrounds.

> The design of m-banking is not user friendly for women beneficiaries, so they apparently struggle to use the technical features of the mobile phone- read the SMS and enter the PIN number- beneficiaries are crippled by technology! (BISP Liaison Manager, Easypaisa)

In retrospective to mobile phone usage, the Manager at Ufone also echoed that there was evidence from the mobile communications industry showing that mobile phone usage was lower in women in comparison to men, so hence, m-banking services need to match the capabilities of the less capable women in the programme.

> Mobile phone services are designed for the general population without keeping in mind the less- abled users….so it's a problem for G2P beneficiaries (Manager, Ufone).

Keeping this in view, some plausible measures undertaken by BISP to address these concerns were that as part of the payment protocol, beneficiaries should receive the interactive voice recording (IVR) in *Urdu*, in addition to the text message, to make the user interface experience more user friendly for women. In fact, the Director of Payments had suspicions that beneficiaries were probably not receiving the IVR, as stated below.

> Besides receiving the standard text message, beneficiaries should also receive an IVR, and I know that they are probably not receiving this…they were supposed to receive both for notification of payments (Director of Payments, BISP).

Following this analysis, through DoT it is interpreted that as structure was enacted through the social actions of beneficiaries, a literate beneficiary enacted the structural properties of m-banking differently to a literate one. This will be discussed in greater detail in the next Chapter.

Social Effects

Symbolic Tools of Freedom vs Family Friction

Since mobile phones were generally perceived as symbolic tools of liberation and empowerment, many beneficiaries 'passed on' their mobile phones to other family members, either willingly or unwillingly in the face of escalating pressures from their husbands. Many women confirmed that since they were using their mobile phones for voice communications only, they were unconcerned if phones were borrowed by

someone else in the family. Moreover, there was heavy reliance on interpersonal mediation for cashing-out payments or visits to the local field office to learn about payment details. In few cases, beneficiaries feared that keeping possession of their handsets would create social problems and cause strife and friction within their households. However, few women conformed to their traditional roles, so voluntarily offered their phones to their husbands to avoid any social conflict. In relation to this, a beneficiary professed,

> You know that we are still traditional in our thinking- if I don't respect my husband, he will leave. You know that in our society, it's very difficult for a woman to live on her own, so I want him to be happy and I'm careful not to upset him. My husband needs to feel important, so I offer him some money, otherwise, he will feel threatened- if he wishes, he gives me some money as well (Beneficiary 13).

Similarly, another beneficiary remarked,

> I can't use the mobile phone so that's why my husband has it most of the time. When someone calls me, he answers the call and gives me the phone, but I take it from him when we go to the agent. It doesn't matter as long as I get my money…he thinks that I will become more independent and he really fears that (Beneficiary 8).

This perception is further endorsed through the lens of a mobile operator official who also echoed that mobile phones 'changed hands', despite BISP's efforts to empower women through the provision of mobile technologies for social change.

> Mobile phones are changing hands….today she gives it to her brother, brother gives it to his son, son gives it to his wife- so the handset has disappeared completely and is lying with someone else. This is not a scalable model, and nobody can invest in this (Director, Easypaisa).

High Socio-Economic Costs

As the findings explicated, many beneficiaries complained that travelling to agent locations for cashing-out their grants was costly, financially and socially, as the trip consumed a whole day's labour. Hence, travelling large distances to agents incurred high transaction costs, as mostly, banking agents and franchises were located far that implanted a hefty burden on the already low income of beneficiaries' households. Further, beneficiaries unveiled that owing to socio-cultural restrictions, they were not

allowed to travel independently, so had to be accompanied by family members, relatives, friends or neighbours. Thus, only by travelling in groups could they overcome the social barriers associated with single women travelling alone in traditional households. As remarked by beneficiaries,

> We have to travel long distances to go the agent….sometimes over 2 hours… and are not allowed to travel alone, so go in groups…also to share the cost of travel. It costs us a lot of time and money and when we come back home at the end of the day, we are still expected to do the housework and cook…it's not fair (Beneficiary 15).

> We spend around PKR[21]. 200-300 (USD $1.9-2.9) for the whole trip, so we try to share the cost in the group as its expensive to travel alone, but then my whole morning is wasted- it takes a lot of time and effort (Beneficiary, Focus Group).

However, the general perception framed was that mobile payments were still more convenient and flexible for beneficiaries, as they were not restricted by time while the costs were lower than travelling to the main bank branches in cities for collecting their payments.

Agent Trust vs. Fraud

The findings unveiled that many beneficiaries, primarily, trusted banking agents who assisted them in the cash withdrawal process. Agents were commended to be very helpful as they voluntarily resolved payment problems on the ground. Women further disclosed that they usually handed their handsets and identity cards to agents, since they were incapable of reading/entering the PIN on their mobile handsets. After retrieving the security details -via PIN and verifying beneficiaries through biometric identifiers, agents authorised their payments. In the end, beneficiaries were asked to either give their thumb impressions, or signatures to confirm the receipt of payments on the agents' payment record books. Hence, the encapsulation of biometrics within mobile payments certified beneficiaries to receive G2P payments in the programme.

> Normally, the agent is very helpful and I trust him because he's like my son, so I give my phone to him. He sees the message, asks for my identity card and thumb print, and then hands me the money (Beneficiary 12).

[21] Based on exchange rate in February 2016: 1USD= PKR.104.91

In most cases, beneficiaries received the full amount of grants from agents, albeit, there were few instances where they were deceived by dishonest agents. They were misinformed that their money had not arrived whilst the agent 'pocketed' some amount of the grant. A dismayed beneficiary exclaimed,

> At least we know that the agent is not a thief, but you still have to be careful. Some people did not get their money as the agent told them that their money had not arrived and he kept it…we have heard stories like that as well, so it's not good! (Beneficiary 4)

Hence, fraudulent agents were identified in the system by management and after investigation, grave action was taken against them- either suspended, or their licenses were revoked depending on the scale of fraud. As claimed by the Director of Payments,

> If the beneficiary does not receive money, or if there are cases of fraud where the agent takes money, and the complaint is lodged with us, then we obviously take action. Some franchises are suspended, some are blocked, and the money is recovered (Director of Payments, BISP).

Other beneficiaries divulged that on rare occasions, there were delays in receiving payments. This issue was mainly highlighted by m-banking staff who blamed BISP management for not regularising money transfers to banks. Hence, delays from government channels resulted in irregular payments that caused anxiety amongst few beneficiaries. The Director of Easypaisa was concerned that since the majority of complaints were directed towards the m-banking provider, it tarnished their company's image.

> So when you go out in the field, women will tell you that, 'I haven't received money since the last 3 months', but the actual delays that have happened so far are because of BISP and we can't do anything about it (Director, Easypaisa).

Through the lens of DoT, these fraudulent or delayed payments accounted for the *'unintended effects of technology'* that will be further discussed in Chapter 6.

Technological Constraints

Mobile Phone, SIM and Account Issues

Other findings revealed that certain technological constraints were inscribed in the m-banking artefact that posed complications for beneficiaries. Many women complained that their mobile phones were either damaged or lost, and to their dismay, replacement phones were not offered by BISP. However, a banker's stance on this issue was that many women living in stark poverty deliberately sold their phones, so under such circumstances it was unfeasible for banks to fund new handsets.

> Mobile phones were reported as lost, but we saw that many poor beneficiaries sold their mobile phones. However, banks could not offer replacement handsets as it was too expensive for us (Senior Manager, Alfalah Bank).

In other cases, it was common that SIMs were either lost or blocked which constrained beneficiaries from cashing-out their mobile payments. As SIM's were interchangeable, and not tied to their handsets, women were not physically bound to retain their phones, as they were able to receive payments without presenting the phones to agents. As narrated by some beneficiaries,

> The agent asks for my SIM and identity card only- even if I don't have the handset. I give those to him and still receive the money, but once when the SIM was lost, there was a big problem in getting the money (Beneficiary 1).

> I still get the money….I don't get the message but I have the SIM with me…I don't know what he does…I just give him the SIM and identity card, and he hands me the money. I asked if they can give us another phone, but he says that they cannot (Beneficiary 9).

In the same vein, a BISP official also reasoned why beneficiaries were tempted to sell their handsets whilst retaining the SIM, as it did not affect their receipt of payments.

> We received complaints that whenever beneficiaries would need money, they would sell their mobile phones because we did not link the payments with the handsets. So if the beneficiary put her SIM in some other handset, she would still receive the text, and be in the position to withdraw the money (Director Payments, BISP).

Other technological constraints inherent in m-banking pertained to mobile accounts getting blocked, especially, if the wrong number was registered against the recipient's name, or if there was some discrepancy between the names registered on the identity card against the payment database. Consequently, m-banking providers blocked beneficiaries' accounts as part of the security control measures to ensure that payments were received by legitimate beneficiaries only. This sometimes caused frustration amongst beneficiaries, as it led to delayed payments that involved several visits to the agent. As expressed by a beneficiary,

> Once the agent said that your account is blocked and your mobile number is not registered with your name. You know that they ask for an identity card, so a wrong mobile number was identified against my name, so I didn't get the money and was extremely upset (Beneficiary 3).

Hence, it is interpreted that the technological constraints were enacted by beneficiaries through their interactions with m-banking.

Infrastructural Constraints

Network Issues and Power Outages

Contrary to the popular claim that m-banking provides a robust infrastructure for telecommunication in rural regions, it was found that in certain sub-urban and rural clusters where beneficiaries resided signal problems were prevalent. This was primarily due to poor mobile coverage in those districts, so consequently, beneficiaries failed to receive the text message and the timely receipt of payments. Further, due to frequent power outages, many beneficiaries faced handset charging problems that also resulted in delayed payments. The Manager at Ufone remarked,

> Due to poor coverage and signal problems in certain districts, beneficiaries do not receive the SMS on time, so some payments get delayed- whilst it surprises me that many do not even have electricity in their homes (Manager, Ufone).

This narrative was also echoed by the BISP Field Officer,

> One problem is that beneficiaries are living in different areas- in remote villages or mountainous regions- so there are signal problems there. They are coming here and saying that they are not receiving the message notifications, so we then check their payments from the web-site, and the message is resent…so yes….there are signal problems at times (BISP Field Officer).

Emergent Practices

Voice Communication and Innovation

More significantly, mobile phones were increasingly used for voice communications by many beneficiaries. This accounts for *technology-in-practice* that emerged from m-banking usage, as recounted by the Manager at Ufone,

> Beneficiaries were using mobile phones for making calls, mobile top-ups and few of them were improvising services- came up with the idea of 'reselling' cellular services in that area by using a mobile phone as a PCO that helped the local community (Manager, Ufone).

Hence, the findings reflected that some women improvised their usage with technology and started innovative business' to generate incomes. Whilst this represented a very insignificant proportion of beneficiaries, it is still worthy to highlight how m-banking spurred micro-entrepreneurial activities for economic growth within restricted G2P communities. As stated by the Director General of Payments,

> So with digitised payments corresponding behaviours were generated….beneficiaries approached internet cafés and computer shops, and by paying PKR.10, they requested the staff to check their statements. So these things were being developed in parallel- the awareness of computers grew and some people actually started their business for beneficiaries- for example, if you are a beneficiary…this is your data…these are your payments etc….so this is what we achieved (Director General of Payments, BISP).

So whilst users of technology became producers of technology in evoking micro-entrepreneurial development, this statement cannot be generalised in the study. However, owing to *interpretive flexibility*, it may be highlighted how users' improvised new social practices in their interactions with technology in certain G2P communities.

To briefly summarise the analysis from this section, on one hand, m-banking facilitated women beneficiaries in providing flexibility and convenience in receiving the full amount of G2P payments. On the other hand, m-banking, embodied certain structural effects in relation to the human, socio-economic, technological and institutional constraints that affected beneficiaries' social practices. These findings will be further interpreted through the lens of Duality of Technology in Chapter 6.

5.5 Socio-Economic Effects of M-banking on Household Properties

This section seeks to answer the final research question in my study that looks at the '*institutional consequences of interaction with technology'*, in relation to the effects of m-banking on the institutional properties of G2P households. Hence, the level of analysis shifts from the individual user's to the organisational level of households. Themes mapped from the data in interviews and focus groups with women beneficiaries were triangulated and integrated with perspectives drawn from BISP officials, bankers and mobile operator staff. Table 5.5 represents the various themes that were mirrored in the interview questions and analysed in the case study.

Economic Effects	**Social Effects**
Poverty Alleviation Cushioned poverty Meeting basic needs Negligible savings and asset investment	**Social Welfare** Education-secondary emergency High health expenditure
Financial Inclusion Secondary objective Unawareness of bank accounts Limited access and usage of financial services Financial awareness and learning	**Social Inclusion** Empowerment Socio-political transformation

Table 5.5: Themes on the Impact of Mobile Banking on Household Structures
Source: Interviews and Focus Groups

5.5.1 Poverty Alleviation

Cushioned Poverty

Analysing the data through BISP's perspective revealed that G2P payments- via m-banking supplemented beneficiaries' household incomes and cushioned the effects of poverty in low-income households. The delivery of social cash to help poor households overcome chronic poverty was perceived as a state responsibility by BISP. As underlined by the Outreach Manager at BISP,

> All over the world, social safety nets provide a cushion to those people who are very poor, so after some time they can pull themselves out of poverty with some effort. Nowhere in the world do you leave that class of people in hunger…it's the responsibility of the state to look after the poor or unemployed (Outreach Manager, BISP).

Since many households in the country had been adversely affected by the food and energy crisis in 2008, the monthly payments, received every quarter, were a sustenance allowance that afforded a safety net for impoverished families in Pakistan. Hence, mobile payments offered monetary assistance to low-income households, as reflected in the narrative of a BISP official,

> We can call the G2P payments a sustenance allowance because when we saw the conditions of beneficiaries, we were very disappointed and shocked. There were certain women who had never even seen or held an amount of PKR[22] 1500 (USD $14.3) in their hands! We saw many such people and you cannot imagine what the value of this cash was for them (Case Specialist, BISP).

Needless to say, the G2P payments were not a life changing amount for beneficiaries, albeit, the payments contributed towards basic income and food security that elevated the standard of living of many households. In this case study, I will seek to establish whether financial inclusion- via m-banking was achieved to help poor households graduate from poverty.

[22] Based on exchange rate in February 2016: 1USD= PKR. 104.91

Meeting Basic Needs

Women beneficiaries explicated how m-banking affected the institutional, or socio-economic properties of BISP households. Many beneficiaries verified that mobile payments were primarily spent on meeting the basic household needs, such as food, clothing and medicines. A beneficiary remarked,

> The grant gives me a great feeling! I spend the money on food…like we can eat fruit now…and also on clothes and medicines, or any other important children's needs, but it's mostly used for the welfare of the entire household. I can sleep better at night now knowing that my children are not hungry anymore (Beneficiary 10).

This narrative confirmed that G2P payments were substantially used to purchase essential food commodities, for instance, flour, sugar, oil, milk, tea and spices. By providing food security, it helped beneficiaries to improve the diet and nutritional requirements of their families. Also, as the mobile payments contributed to the economic welfare of their households, the majority of beneficiaries expressed their gratitude towards BISP, albeit, few grumbled that the amount was insignificant for economic change in their livelihoods. Another beneficiary quoted,

> Although we are getting more money and the extra money is helping us to buy food, clothes and medicines, we cannot see any significant change in our lives. The money is good, but not sufficient to drastically improve our economic conditions. As you know, there is inflation so things are becoming more expensive everyday…the Government does not control the rising prices of food and other commodities (Beneficiary 2).

However, the Director of Operations at BISP exclaimed that the grant money was invaluable in reducing income poverty for many households.

> Beneficiaries use the money to buy food, medicines and clothing and if you actually go to areas of rural Sindh, like Sukkur and Larkana, you will be surprised and shocked to see that some of them even don't have sandals on their feet in the scorching sun…you cannot imagine but this is the level of poverty in certain regions! (Director Operations, BISP)

Negligible Savings and Asset Investment

The findings divulged that the majority of beneficiaries were unable to save from the grant amount, as mostly, the entire amount was expended towards meeting the basic needs of their families. In the words of a beneficiary,

> How can we save and do you really think it's possible? Savings is not a priority for us…I try to save, but end up using the whole amount of grant for the basic needs of the family. It's not a big amount anyways, so how can you expect any savings at the end of the month? (Beneficiary 6)

However, it was observed that few women held minimal savings informally, or 'under the mattress' savings whilst others were members of local saving groups. Also, it was learnt that many beneficiaries were unaware that they possessed a bank account, so had limited financial understanding on how mobile accounts operated in the G2P system. Moreover, they were oblivious of the fact that they could save by leaving a certain amount of money in their accounts. In fact, the Director of Operations reported that the majority of beneficiaries withdrew the whole grant amount instantaneously amidst the fear that they would lose money if there was any delay in cashing-out payments.

> Beneficiaries have no confidence in the Government and quickly withdraw all their money as soon as they become aware of money coming into their accounts. The majority of women work in the fields and 1/16 of their yearly income is wheat, so savings is not important for them and they do not have the capacity to buy assets (Director Operations, BISP).

However, in other regions, some banks identified the withdrawal patterns of beneficiaries and reported that under very rare circumstances, there were notable savings in some accounts. Bankers found that a small proportion of beneficiaries preferred to withdraw their payments after accumulating few successive instalments. As noted by the Executive Vice President of UBL,

> We've seen some beneficiaries actually leave the payments in their accounts, and they don't withdraw it right away….they wait for two or three instalments to accumulate payments and that's when they take the money out. So we've seen a very small percentage of people who are probably using this as a storage mechanism for money (Executive Vice President, UBL).

Similarly, the Director General of Payments echoed,

> If some beneficiary does not take the money out, it remains in her account, so we presume that maybe she is saving. So savings is happening…we do not take the money back instantly, so it is acting as a virtual savings account for the beneficiary, but it is only one way…..she cannot deposit money but only withdraw from her account (Director General of Payments, BISP).

Nonetheless, it was difficult to establish whether beneficiaries left payments in their accounts intentionally, or out of sheer ignorance. However, the popular narrative recorded from beneficiaries was that due to negligible savings and inaccessibility to loans, they were unable to purchase physical or capital assets, for instance, livestock, farming machinery or sewing machines for investments in micro-businesses. A beneficiary claimed,

> I sometimes think that I should buy a sewing machine, or maybe a cow to sell the milk or dairy products, but all the money is spent, so there are no savings at all (Beneficiary, Focus Group).

Hence, it is explicated from the findings that mobile payments elevated the economic well-being of many low-income households, but these effects were rather short-lived and marginal. Although m-banking introduced some changes in the economic dynamics of households, there were no substantial contributions towards attaining sustainable livelihoods. In fact, many beneficiaries proclaimed that they had actually become dependent upon mobile payments.

> We don't see a big change in our lifestyle, although the money is important. So if the Government stops these payments, we will not know what to do as we are getting dependent upon these payments (Beneficiary 4).

5.5.2 Financial Inclusion

Secondary Objective

The findings disclosed that financial inclusion was the secondary objective for BISP management to shift to m-banking, whilst the primary objective was to achieve

transparency and governance in organisational structures. This revelation was made by the Director of Cash Transfers,

> The primary objective of moving towards digital payments was transparency and the secondary objective was financial inclusion- be it mobile banking, smart card or the debit card. So financial inclusion is of course there, but we are realistic in terms of achieving it gradually (Director General of Cash Transfers, BISP).

A similar perception was resonated by a DFID Director who also agreed that financial inclusion through the delivery of G2P payments was secondary to BISP after transparency. Moreover, it was stressed that the core focus was centred on poverty alleviation rather than prioritising financial inclusion from the outset of the programme.

> The rest of the sector knows that m-banking is a platform for financial inclusion, but till now, since the programme is still at infancy, it's working out its core objectives- that is- cash transfers that smoothen consumption for poor households. Very frankly, I don't feel that the primary objective is financial inclusion (DFID Official).

Therefore, BISP designers embedded transparency as the main objective into the design of m-banking over the financial inclusion goals.

Unawareness of Bank Accounts

The findings illuminated that the majority of beneficiaries were unable to comprehend the correlation of m-banking with bank accounts. Many were rather surprised to learn that they possessed bank accounts, as they never visited banks related to any documentation for formal account opening. Since they had been receiving G2P payments through banking agents, or franchise staff, they failed to comprehend how m-banking linked them to the formal banking system. As questioned by a beneficiary,

> How can it be possible that I have a bank account, as I have never been to a bank in my entire life? All I know is that the mobile phone was given to me and it helps me to receive the money from the agent …so why do I need a bank account? (Beneficiary 11)

However, a BISP Manager made a rather sarcastic remark that m-banking was rather in vain to 'bank' women, as in reality men were mostly handling the financial transactions for the receipt of mobile payments.

> We have not been successful in connecting rural women or beneficiaries with banks because it has been observed that in most cases, the mobile phone is not used by women themselves. It is used by some male member in the family, or a focal person in the village, who will withdraw the amount for her, so 99.99% of beneficiaries are not even aware that they have a virtual bank account! (Outreach Manager, BISP)

Limited Access to Financial Services

As earlier presented, the findings annotated that beneficiaries were provided with limited purpose instruments as conduit accounts that were confined to G2P withdrawals only. Since these bank accounts were not fully financially inclusive, they constrained women from conducting financial transactions, such as, transferring money, depositing savings and accessing micro-credit and insurance. The Director of Payments at BISP eloquently stated,

> Initially, whatever system we are running, it is a way towards financial inclusion, but it is not completely serving the purpose of financial inclusion because beneficiaries have limited purpose instruments to receive G2P payments. In fact, these are rather conduit accounts because they are not allowed to carry out other transactions- they cannot receive money from other sources, or deposit money in the accounts. So strictly speaking, it is not financial inclusion because we cannot talk about savings (Director of Payments, BISP).

A similar perspective was shared by another manager who exclaimed,

> The most important thing is that we do not have any provision in our agreement with banks that virtual accounts maybe used for other purposes. Even if some of the beneficiaries do not withdraw their money for a long time, banks don't provide any interest on their monies, so this limits financial inclusion! (Outreach Manager, BISP)

As recalled from the earlier findings, the agent infrastructure, set up by banks restricted beneficiaries' access to agents that posed difficulties for those women who resided in financially underserved and remote communities. Hence, lack of access to credit,

insurance, savings and money transfer facilities restricted financial inclusion in BISP households.

Financial Awareness and Learning

From the perspectives of BISP officials, financial inclusion was reinterpreted in terms of social indicators, related with beneficiaries' financial learning curves and awareness levels. Hence, there was a close connexion between financial and social inclusion, as there were notable indications that beneficiaries had made gradual progress on both fronts. M-banking had instigated basic awareness and learning in beneficiaries that was linked to their mobile phone usage in being a critical financial inclusion marker in G2P communities. In the words of the Director General of Cash Transfers,

> Financial inclusion is a little far ahead….beneficiaries are mostly illiterate, so cannot use their mobile phones independently. They will make an effort to use technology and since they are determined to get their money, they will eventually learn. They have innovative minds….this is financial inclusion for us! Not that they can independently do financial transactions, but that they are developing the financial capacities to read numeric data and use the PIN on their phones. This is the first stage of financial inclusion….the second stage involves being able to use the banking system independently (Director General of Cash Transfers, BISP).

So while financial literacy was still low amongst women in the research sites, surprisingly, in areas where beneficiaries used mobile phones there was a steep rise in their learning curves. Beneficiaries developed the confidence to manage their household finances, and through trial and error, they gradually started to learn how to use the phones' features. This accounted for financial inclusion as affirmed by the Manager at Ufone,

> Women's mobile phone usage has increased in areas where there is m-banking. They are gradually learning how to use numeric data over time and use basic mobile services, such as making calls and how to charge their phones. Their learning curves have risen very rapidly within 3-4 months (Manager, Ufone).

To summarise the findings, m-banking, through the disbursement of social cash, provided food security that alleviated income poverty in many G2P households. However, the structural changes for transforming the institutional properties of

households were insignificant. Whilst there was some degree of change through the enhancement of beneficiaries' economic welfare, the change was insignificant for sustainability of households in the long term. The effects of m-banking on the economic properties of households will be further discussed with reference to the structuration framework in Chapter 6.

5.5.3 Social Welfare

Education- Secondary Emergency

The data from interviews and focus group data helped to triangulate the findings in illustrating how m-banking affected the social dynamics of beneficiaries' households. There was evidence that many beneficiaries were unable to save from their mobile payments, so hence, could not afford to send their children to primary school and cover their educational expenses, for example, school fees, books, uniforms and stationery. Education was perceived as a 'secondary emergency' after hunger, so quite explicably, beneficiaries were concerned to meet their families' hunger needs first. These perceptions were inscribed in the narratives of beneficiaries.

> It's more important that we first fulfil our basic household needs…then we can think about educating our children….it is painful for me when I see other children going to school when mine don't! (Beneficiary, Focus Group)

Generally, beneficiaries sensed the guilt of not providing education facilities to their children, albeit they recognised its value on the social wellbeing of their households. As financial resources remained inadequate, it was unfeasible for them to bear the steep educational costs of their children.

> We don't have enough money left for education, as every single penny is spent and then we have to wait for another 3 months to receive the money. Children have many needs and I feel guilty that we are unable to fulfil all of them and give them the education that they really deserve (Beneficiary 7).

High Health Expenditure

Although it was earlier manifested that G2P payments- via m-banking were utilised to buy medicines in times of need, some beneficiaries grumbled that the grant amount was insufficient to pay doctors' fees or cover hospital bills. These views have been expressed by beneficiaries as presented in the interview and focus group data.

> In my age, you may likely incur medical expenditures too. I had an operation and all the money was spent on the operation, doctor's fee and medicines. We are becoming old and have many medical issues, so who will look after our health? (Beneficiary, Focus Group)

> When someone gets ill, the doctor's fee is a lot, so we barely manage to cover the health costs (Beneficiary 5).

In order to avoid the high doctors' fees, beneficiaries preferred going to their local pharmacist over the doctor's clinic to seek medical advice. In this context, the Director of Easypaisa stated that propositions to extend mobile health (m-health) insurance to beneficiaries were declined on several occasions by BISP. The mobile health plan suggested that if beneficiaries retained a certain amount of the grant in their mobile accounts, they would automatically reap the benefits for mobile health and life insurance.

> The problem is that we have taken proposals to BISP- from time to time- that lets offer mobile life or health insurance to beneficiaries- they keep a certain amount of money in their mobile accounts and are then covered for any health problems arising. So we built the entire product and took it to BISP, but nothing fruitful on that as of now (Director, Easypaisa).

Hence, BISP managers may consider embedding resources in m-banking design to extend health benefits to beneficiaries that may have positive consequences on the social dimensions of their households.

5.5.4 Social Inclusion

Empowerment

The provision of ICTs, or mobile technologies to poor women, to some extent, reduced the urban rural digital divide, and subsequently, the social divide amongst underprivileged households in Pakistan. A significant finding that emerged was that social inclusion, perceived as empowerment, was 'transformative' in beneficiaries' households. This suggested that m-banking 'psychologically' empowered poor women, as the process of cashing-out mobile payments at bank branches, or agents provided access to those structures and processes that were previously socially and financially excluded. A beneficiary exclaimed,

> We never thought that one day, we can walk into a bank or an agents shop…banks are for the rich, so this has psychologically empowered us! (Beneficiary, Focus Group)

Another beneficiary shared a similar viewpoint in professing that mobile payments increased her self-esteem, as she had become financially self-sufficient, and hence, less dependent upon husband's income. As the national identity card had marked her personal identity, it cultivated a sense of freedom that augmented her social standing in the household. Various perceptions from beneficiaries strengthen this argument.

> I feel more empowered and my self-esteem has increased, as I no longer need to ask family or relatives for help, so I feel self-sufficient and I can sense it. Also, because I have an identity card for receiving money, my husband knows that I have my own identity now, so he cannot be rude to me (Beneficiary 11).

> You can't really believe how happy I am to stand on my own feet! It's given me a lot of self-pride and self-esteem, since BISP is making the payments in my name. I have my personal identity, so can do something for my children (Beneficiary 14).

Although the findings captured the general perceptions of beneficiaries related to empowerment, few women unveiled how m-banking affected familial power relationships in their households.

> Although my husband knows that BISP is trying to empower us, he still wants to remain the head of the household and doesn't want me to control matters, or make decisions in the house. You know men…they feel threatened…this has caused many arguments, so I have to be very careful (Beneficiary, Focus Group).

Hence, the shift in power equilibrium constrained family relationships in few patriarchal households in the case study. In relation to this, a BISP manager was rather cynical on beneficiaries' social empowerment attributed to their receipt of mobile payments. In fact, he was rather dubious of BISP's stance to empower women through the provision of mobile payments, as reflected in his own words,

> As far as women empowerment is concerned, making women beneficiaries of BISP was aimed at making them more economically empowered, which will consequently, result in more socially empowered women. But that could not be 100% achieved because many women cannot use mobile phones! So we cannot claim that we have changed the social norms of this society- social norms are that families are still headed by the male members of the society and the fiscal and budgetary affairs lie in their hands. Although we observe that in most cases, a certain amount of money comes indirectly into the hands of the beneficiary, and not the total amount, as it has been consumed in family expenditures by the male member (Outreach Manager, BISP).

This view-point, however, contradicted the general perceptions that were entrenched in the narratives of beneficiaries. In fact, other BISP officials affirmed that m-banking was gradually changing the societal norms in many G2P households. However, social inclusion also presented a clash of structures, since technology embodied new rules or norms that had implications on the structural properties of households. This will be further discussed through the structuration framework in Chapter 6.

Socio-Political Transformation

As highlighted in the findings, the receipt of digital payments- via m-banking made it mandatory for beneficiaries to possess the computerised national identity cards (CNIC) for biometric verification. In this context, further evidence of social inclusion was insinuated by a banker who noticed that a considerable degree of social change was happening in many G2P households. Since an overwhelming majority of beneficiaries were stepping out of their homes for registration with NADRA's database and for

collecting mobile payments, this signified socio-political transformation in G2P households and communities. As validated by the Executive Vice President of UBL,

> What we've seen by and large, even in supposedly very strong tribal areas that about eighty five to ninety percent of women, actually step out of their homes, and stand in lines, either at agent locations, or at franchise offices to withdraw their payments…so I think this is a significant social change that is happening, and there has been a huge social impact in communities (Executive Vice President, UBL).

By contrast, a Director from DFID concurred that through the provision of government services there was some social change visible in communities, but it was premature to pronounce the change as 'transformative' at this stage in G2P households.

> I think social transformation is a bit too early to say because currently the programme has been scaled up, and we are starting to see patterns of consumption showing impact on women's empowerment. As one of the preconditions for getting digitised cash is that women have a CNIC card, it has allowed some women to access other Government services. So I think it will be important to see the impact in the long run…. although it's not insignificant! (DFID Director)

Needless to say, the national identity cards granted women the right to cast their votes, so in this sense, it enhanced their political awareness and participation in the democratic electoral process across the country. For many beneficiaries, the identity cards represented a radical departure from a prior situation of residential insecurities and with limited access to citizen-based entitlements. Hence, m-banking symbolised change in the socio-political landscape in G2P communities as claimed by a beneficiary,

> Having a CNIC card is a big thing for me, and I am very excited that I can vote now, as I have never voted before…I feel that it is a positive change politically for us (Beneficiary 16).

Hence, the findings suggest that m-banking embedded new socio-political structures in technology that had positive consequences on the social properties of many G2P households.

5.6 Capabilities Development

The findings revealed that m-banking alleviated poverty in many BISP households, however, economic change was marginal that failed to structurally transform the economic properties of households or financial inclusion. This was because m-banking failed to embed the structural properties in enabling women to enhance their capabilities for poverty graduation. As the findings confirm, the majority of beneficiaries lacked basic literacy levels and were largely unskilled that had implications on the financial inclusion drive in households. These concerns were vocally professed by the Chairman of BISP who underlined that the provision of vocational training was critical in developing the skills, or capabilities of beneficiaries for expanding their job opportunities in local markets. Hence, the Chairman avowed,

> To-date, unfortunately, there aren't any key successes in the programme…we've just kept them on a begging bowl. The last management on paper did train fifty seven thousand beneficiaries, but there is no record, so they've just been left on the streets without jobs! (Chairman, BISP)

In another instance, the Chairman further affirmed,

> A programme which gives beneficiaries technical skills to develop their capabilities and increase employment opportunities after the training period, I feel is our main responsibility at BISP. So we are sure that beneficiaries, or someone from their families are on the job, and after a reasonable assessment, we will try to remove them from our lists….this is my win-win story (Chairman, BISP).

Whilst BISP provided the chronic poor with basic income support, the Chairman emphasised the importance in providing essential skills training to beneficiaries' families. This strategy would assist them to seek employment, or engage in micro-entrepreneurial activities to become self-sustainable and ultimately make exit from the programme.

> One of the major directions by the Prime Minister is that we need to train and build beneficiaries' capabilities so that they can have jobs, or support their economic activities to make them financially strong, so that they have an exit strategy from poverty (Chairman, BISP).

Although the incorporation of certain schemes under the BISP banner, including *Waseela Taleem (primary education), Waseela Rozgar (vocational training) and Waseela Haq (micro-finance)* were directed towards sustainable livelihoods of G2P households, there was little evidence to-date displaying their links to the financial inclusion agenda. Whilst some schemes had been temporarily suspended, others had limited national outreach for many G2P households. As mentioned earlier, these payments were not made through mobile channels, so further analysis lies outside the scope of this thesis. As the theme of 'capabilities development' emerged from the data, the next Chapter enlightens how it may be incorporated into the Duality of Technology framework to extend the analysis beyond the socio-technical and economic perspectives of development.

5.7 Summary

This chapter presented the findings that addressed the research questions in the case study of the Benazir Income Support Programme. It was disclosed that the social construction of m-banking was influenced by a multitude of external and internal institutional forces that were represented in the structural design of m-banking. As m-banking was socially-embedded in the institutional context of BISP, it enabled programme managers to achieve transparency, visibility and security in delivering G2P payments to a wider population of women beneficiaries. Financial inclusion were secondary objectives for management that exemplified how m-banking entrenched human, socio-economic, institutional and technological constraints that limited beneficiaries' access to financial services. However, m-banking provided convenience and flexibility to women in cashing-out payments. Moreover, social inclusion was perceived to be transformative through women's empowerment and socio-political change prominent in household structures. In order to progress financial inclusion, it was obligatory for BISP to offer skills training and loans to beneficiaries to encourage micro-entrepreneurial development. In this context, m-banking, potentially, may play a significant role in embedding resources for enhancing human and financial capabilities for financial inclusion, and consequently, poverty graduation in households. In the next

chapter, I will interpret the findings through the Duality of Technology framework and will extend the analysis through Sen's Capabilities Approach (1999; 2000) to advance the discussion on how capabilities development may lead to structural transformation, or financial inclusion in G2P households in Pakistan.

Chapter 6: Discussion

6.0 Introduction

In this chapter, the findings are discussed at a theoretical level within Orlikowski's Duality of Technology (1992) framework to address the research questions in the study. Although DoT was used as a sensitising tool in my analysis, the findings informed the framework, whilst 'capabilities development', as a new theoretical proposition, extended the analytical framework through Sen's Capabilities Approach (1999; 2000). This sheds light on how m-banking may embed resources for capabilities development in order for households to climb the financial inclusion ladder. In the chapter, I offer critique on the ICT4D discourse that is deterministic for women users, unless it is combined with the capabilities vision in contribution to the theoretical and practical ICT4D literature.

6.1 Social Construction of Mobile Banking

Revisiting Orlikowski's Duality of Technology (1992), the findings pertaining to the social construction of m-banking are interpreted by combining the ***'institutional conditions of interaction with technology' (process a)*** with ***'technology is a product of human action' (process b)*** in the framework illustrated in Chapter 3. The DoT framework illuminates how the external and institutional forces provide various interpretive schemes, resources, rules and norms that were drawn on by human agency, or BISP managers for designing m-banking practices in the BISP programme. This presents how organisational rules and norms were reaffirmed and/or challenged by social actors through interpretive schemes for the social construction of m-banking (MacKenzie and Wajcman, 1999). Hence, social constructionism reflected on how shared interpretations, interests and disciplinary conflicts between various political, economic, regulatory and foreign actors were exchanged and negotiated, and then embedded by BISP into the structural properties of m-banking in the programme. This assumption negates the concept of m-banking innovation as a process of *technology transfer and diffusion* that is deterministic in approach. While the *duality of technology* prescribes that technology is institutionalised after construction, as it becomes part of the

structural properties of the organisation, this reinforces the notion that m-banking is *socially-embedded* in the context of technology designers in the case study (Kemal and Yan, 2015).

6.1.1 Institutional, Political and International Interpretive Schemes

The Benazir Income Support Programme lies under the umbrella of the Federal Government in Pakistan, so the Chairman is a political appointee who directs most strategic decisions to appease the political administration in the country. As BISP was a flagship programme of the Pakistani Government, it aligned with the United Nations Millennium Development Goals for poverty alleviation, so the political mileage it earned was significant at both national and international levels.

At the strategic level, international donor's influence was critical in directing the conversion from cash to mobile-based payments, hence, foreign interests in institutionalising transparency for delivering mobile payments, aligned with BISP's institutional objectives. Hence, for both BISP and its international partners, DFID and World Bank, the primary goal in designing m-banking was to achieve accountability and the institutional strengthening of the organisation. These objectives were primary over the financial inclusion schema and were embedded into the structural properties of m-banking. Such findings concur to studies from Mexico which exhibited that the main impetus towards shifting to digital payments was to reduce waste through transparency (Bold, Porteous and Rotman, 2012).

Moreover, since international donor agencies had financial stakes in BISP, through their strong affiliations with the political government, they managed to influence programme managers. Although the BISP programme was indigenous in nature, it was led by the Government of Pakistan which closely worked with its international partners in sharing financial and technical resources for the construction of digital payment platforms. In particular, the World Bank through a series of interventions strengthened BISP's operations for the targeting and delivery of digital G2P transfers that enhanced the accountability, governance and monitoring of digital payments. Hence, at the policy level, international donors helped BISP achieve the best practice for delivering mobile

payments to local beneficiaries. However, owing to the *socially-embedded* nature of m-banking, I argue that m-banking design conformed to management's goals. Whilst drawing on the international experience of donors, BISP made the political decision to implement m-banking in selected districts that involved a series of mediations and communications in coherence with organisational rules and norms. Thus, through the lens of DoT, it is illuminated how programme designers embedded resources and rules from donors and political actors into the structural design of m-banking (Orlikowski, 1992).

Moreover, the political orientation of the programme invited severe criticism from the civil society for being subservient to foreign powers in implementing their agendas. This perception conforms to Thompson's (2008) view who contends that foreign agendas, dictated by international policy makers may clash with local developmental agendas. Wade (2002) further argues that as technologies and international standard governing regimes are designed in developed nations, developing countries may become more vulnerable to increasing complexities that are associated with the inclusion of digital projects that causes them to drift. Moreover, it provides a means for the World Bank and non-governmental organisations (NGOs) to reinforce their intellectual dominance and establish control and authority in the developmental arena that inherently reveals their monopolistic powers (Wade, 2002).

However, in this study, m-banking was indigenously constructed by BISP managers, although diverse interpretive schemes, local and foreign, were both combined into a single objective and embedded in technology. Once, m-banking was socially constructed, *duality of technology* purports that it lost its connection with programme managers and became a structural part of the organisation. This highlights the *socially-embedded* nature of m-banking that is inter-wined within the institutional context of BISP (Kemal and Yan, 2015). So although foreign intervention helped management to 'catch up' with technological practices from developed countries, m-banking was enacted by BISP managers to represent the organisation's structures of *signification, domination* and *legitimation*. Hence, applying the lens of DoT, it is argued that m-banking innovation does not prescribe to techno-economic reasoning that attempts to measure ICT- enabled economic growth, but rather offers a socio-technical lens to interpret the effects of m-banking on individual social actors and households.

Moreover, since m-banking innovation was *socially-embedded* in the institutional context of BISP, *progressive transformation* was significant within the organisational processes and structures (Kemal and Yan, 2015). However, some authors criticise that as socio-technical perspectives on technological innovation may be laden with power dynamics, it may be inadequate to capture local actors' cultural, political, aesthetic and ethical problems (Avgerou and McGrath, 2007). From this standpoint, several narratives from BISP managers epitomised how certain local actors, or politicians, resisted the transition from cash to mobile-based payments in the programme. Indeed, the transition was perceived as a political threat to local parliamentarians, as they no longer distributed G2P payments to 'handpicked' households which considerably reduced their power base and political standing in their local constituencies. Hence, objective targeting through the poverty score-card and disbursement of digital G2P payments, significantly, diminished parliamentarians' political dominance and enacted new socio-political structures of domination and legitimation. Thus, BISP's coalition with foreign players legitimised new practices around the delivery of social cash that removed illegitimate beneficiaries from the database. This resulted in '*unintended consequences*' for certain political actors that gave rise to discourse, dialogue and negotiations between various local and international actors in the programme.

6.1.2 Socio-Cultural Norms

Through the lens of Duality of Technology (Orlikowski, 1992), I contend how the social construction of m-banking incorporated certain design features from beneficiaries' socio-cultural context as well. Hence, the interplay of socio-cultural forces, or norms with BISP managers' objectives were entrenched into the design of the technological artefact during the construction of technology. Within DoT, I accentuate that this relationship illustrates how BISP managers drew on the institutional resources, including customs and traditions from beneficiaries' household contexts whilst designing m-banking. As BISP aimed to empower women, this objective was closely knitted into technology and became part of the structural properties of the organisation. Further, the mandatory requirement for beneficiaries to possess national identity cards for biometric authentication reaffirmed new rules or norms that shaped G2P communities. As beneficiaries, even in the most traditional households, stepped out of their homes to

register with the programme, the construction of m-banking sanctioned new structures of legitimation and authority that altered societal practices and norms. The argument that follows is that inscriptions of state citizenship in technology sanctioned new societal order that preceded towards socio-political transformation, or social inclusion that will be further discussed in this Chapter. Nonetheless, more generally, new technological interventions transformed existing structures and channels pertaining to the cultural and societal norms within beneficiaries' social contexts (Avgerou, 2000; 2010; Madon, Krishna and Michael, 2010).

6.1.3 Regulatory Rules and Economic Resources

Furthermore, the development of m-banking for disbursing G2P payments within BISP may also be attributed to the role of regulatory and economic forces in providing the rules and resources for the implementation of m-banking platforms. As delivering cash payments presented security and transaction cost concerns for the government and BISP alike, without the help of regulators- the State Bank of Pakistan and Pakistan Telecommunications Authority, the m-banking infrastructure would not have taken effect. Consequently, BISP management authorised resources for m-banking construction whilst branchless banking regulations presented the rules that legitimised business models for the disbursement of digital social cash. Further, through the lens of DoT, I argue that m-banking was reified and institutionalised in new structures of authority and power, as substantial resources were earmarked by banks to create the agent infrastructure for BISP.

Moreover, the delivery of digital payments- via m-banking reduced long term costs for both BISP and banks. Prior to m-banking channels, the transportation of large amounts of cash to remote areas were not only expensive, in terms of equipment and administrative time, but also represented considerable security risks, especially, if the delivery schedules were known (Oberlander and Brossmann, 2014). So the construction of m-banking not only lowered transaction costs for BISP in distributing social cash to millions of beneficiaries, but also for banks especially, in regions where there were an absence of bank branches to collect payments. These findings were consistent with studies from middle income countries that confirmed how digital G2P payments reduced

substantial delivery and security costs for managers in social cash programmes (Bold, Porteous and Rotman, 2012). Another example from India reflected that digital payments not only reduced the transaction costs by 15-20 percent, in terms of time, effort and costs, but also cumbersome administrative costs by approximately 5-10 percent (Lochan, et al., 2010). Hence, m-banking led to better governance within government and public institutions after streamlining payment delivery channels.

In relation to the structuration framework, I interpret that BISP managers embedded the interpretive schemes from economic actors as structural properties of m-banking. In most regions, it was noted that banks embraced bank-led models in partnership with mobile operators that soared their initial set-up costs whilst establishing an exclusive agent infrastructure for BISP. Although, it considerably reduced fixed costs for banks, the bank-led model presented higher short-term costs over other m-banking models (Kemal and Yan, 2015). These findings mirrored other studies in the literature where banks suffered high upfront costs in order to build the agent network in remote and financially underserved communities (Emmett, 2012). Hitherto, a justification for the high short term costs are explained if digital channels are utilised for multiple financial streams, such as, the transfer of other social benefits linked to the mainstream bank. Hence, it is argued that the social construction of m-banking was influenced by the existing institutionalised knowledge of its financial and regulatory actors.

The above discourse suggests that the exploitation of existing mobile banking channels lowered delivery cost channels for governments whilst improving the accessibility of payments through viable agent channels for low-income users. This implies that when digital payment platforms utilised the existing branchless banking infrastructure, as exhibited in studies from Brazil and South Africa, the cost of G2P payments into bank accounts were lower over cash payments (Bold, Porteous and Rotman, 2012). Hence, the Government of Brazil saved approximately 5.8 percent of the cost to *Bolsa Familia* beneficiaries by disbursing 15 percent of digital payments directly into recipients' bank accounts (Rotman, 2014). However, as showcased in the case study, the agent infrastructure was exclusive to banks that presented higher up-front costs for BISP and banks in the short-term.

Notwithstanding, the previous ambivalence towards the transition to digital payments in G2P programmes became more definite when they were ratified as being more cost effective over cash payments. Evidence from other countries also confirmed that digital transfers in social cash programmes reduced delivery costs by one-third (Bold, Porteous and Rotman, 2012). At an institutional level, it was noted that the shift to digital payments had shrunk the size of Pakistan's cash-based informal economy as more money circulated in legitimate channels that improved government revenues which were injected back into G2P programmes in the country.

Moreover, economic forces also determined the nature of financial inclusion through the type of bank accounts provided to beneficiaries. Whilst banks made little profit on limited purpose accounts, the transfer of large volume of payments to millions of beneficiaries helped them achieve economies of scale and earn float that strengthened their business cases. The revenue earned compensated for the high start-up costs incurred while supplying mobile phones to beneficiaries in the m-banking pilots. Additionally, banks received a commission fee from BISP, so a large case load of beneficiaries was profitable. This presented lower opportunity costs, in lieu of, funding mobile phones to millions of beneficiaries that passed on economies of scale to beneficiaries in the form of receiving free handsets. These findings were in harmony with other studies that confirmed how banks also served their business interests during the disbursement of G2P payments on behalf of social cash programmes (Devereux and Vincent, 2010; Bold, Porteous and Rotman, 2012).

Hence, it is concluded that the social construction of m-banking was under the influence of various interpretive schemes, resulting from the interplay between external and institutional forces. As noted earlier, Donner and Tellez (2008) avowed that most of the developing world is still trying to understand the dynamics between different social actors and their interactions in the m-banking ecosystem that influences the m-banking model. Hence, through the lens of Duality of Technology, I contend that the social construction of m-banking was not only driven by managements' objectives, but also aligned with other interpretive schemes, facilities and norms that were built into technology and were a function of the institutional context explicated by BISP managers (Pinch and Bijker, 1984; 1987; Bijker, 1987; Bijker and Law, 1992).

6.1.4 Interpretive Flexibility- Reconstruction of Technology

Furthermore, through the prism of DoT, I contend that since technology was *interpretively flexible* (Orlikowski, 1992; 2000) it was not stabilised after construction. Once it was deployed, programme designers improvised the reconstruction of m-banking due to certain *unintended consequences of technology* in relation to their engagements with technology. The findings evidenced that m-banking was replaced with other emergent technologies, or financially inclusive instruments, since technology was appropriated and modified by BISP managers. As there were financial constraints, it was economically infeasible for banks to fund mobile phones in other m-banking projects across the country. Hence, m-banking was not scalable on a national level in the long term. Besides economic issues, m-banking presented other political risks for mobile providers and regulators. The State Bank of Pakistan and the Pakistan Telecommunication Authority voiced their security concerns in relation to the usage of mobile phones by a vulnerable segment of the population. The considerations that mobile phones might fall into the wrong hands of terrorist groups, and hence, may pose security risks were explicitly expressed by these regulators. So while mobile technologies were initially recognised as a positive measure to convalesce political instability and social unrest amongst the economically deprived segments in the population, this rationale became disputable in the context of the BISP programme.

Hence, through DoT, it is interpreted how m-banking was appropriated by BISP managers under political and economic forces that provided resources for the reconstruction of technology. Owing to *interpretive flexibility*, mobile phones were replaced with the Benazir Debit Card (BDC) in the BISP programme. In this context, IS scholars have emphasised the focus on ICT scalability and sustainability, particularly, how digital projects may be rolled out extensively in order to increase their contributions to communities (Walsham and Sahay, 2006; Walsham, Robey and Sahay, 2007; Madon, et al., 2009; Foster and Heeks, 2013b).

The Duality of Technology framework illuminated the political, economic, regulatory, socio-cultural and international forces which were pervasive in m-banking innovation, but overlooked other compound power issues linked to the construction of ‘political

technology' (Avgerou and McGrath, 2007). Although the analysis of the political nature of power remained on the fringes of debate in this study, it may be discussed through a power lens in future studies.

6.2 The Institutional Effects of Mobile Banking on Social Actors

Applying the lens of Duality of Technology, I analyse how '***technology is a medium of human action' (process c)*** while revisiting the framework as illustrated in Chapter 3. Whilst m-banking conditions human practices through user's interaction with technology, this reflects on the *duality of technology*- once constructed, technology alienates itself from designers/users and becomes part of the institutional structure, unless it is enacted by human agency. The findings in the study are interpreted through this framework to explain how m-banking enabled and/or constrained the actions of programme managers and beneficiaries in response to the second research question in the study (Kemal and Yan, 2015).

6.2.1 Transforming Practices for BISP Managers

From BISP managers' perspectives, m-banking was *socially-embedded* (Avgerou, 2008; 2010) in the institutional context of BISP, and as a medium of human action, it facilitated the activities of BISP managers. The assumptions and rules, inscribed in m-banking, enabled the efficient and secure delivery of large scale mobile payments covering wider populations of beneficiaries. Hence, disbursing cash electronically reduced transaction costs for managers, in comparison to the time and effort involved in sorting cash manually and delivering through entrusted intermediaries. Thus, m-banking by-passed human intermediaries in the delivery chain and transferred cash, instantly and safely, directly into beneficiaries' mobile accounts. These findings conformed to studies which exhibited that with the digital transfer of social cash, programme managers were less reliant on security staff and intermediaries- who no longer travelled extensively with large amounts of cash, so their vulnerability to ambushes was palpably reduced (Devereux and Vincent, 2010).

Through the lens of DoT, it is further discussed how m-banking enabled the payment process to become more standardised, structured and routinised for BISP managers by leaving little discretion in the hands of individual actors. Hence, m-banking conditioned practices in introducing transparency and visibility in the G2P payment system. Other structural features, for instance, access to real-time information on payment status were also entrenched in the design of technology, thereby, facilitating managers in the reconciliation of large volume of payments. Since G2P payments were directly channelized into beneficiaries' accounts, m-banking streamlined the payment process by eliminating previous middlemen, or intermediaries- politicians and postmen- from the payment delivery chain. Hence, by significantly reducing corruption, or leakage, m-banking improved governance and accountability for BISP's institutional strengthening. Whilst m-banking enhanced e-governance in BISP structures, it also imposed certain negative or *unintended consequences* on some political actors. This was because m-banking precisely constrained their corrupt practices, such as the meddling of financial resources in government structures. Hence, transparency and visibility were entrenched, as primary objectives, into m-banking design which enabled and constrained managers' practices (Kemal and Yan, 2015).

These findings were consistent with studies that portrayed how digital payments reduced the risks of bribe at the end of the delivery chain. As cashing out at pay-points provided greater choice to beneficiaries in withdrawing their payments, it mitigated the risks of fraud or corruption (Emmett, 2012; Gelb and Decker, 2012). Other studies also mirrored that digital G2P payments were less prone to fraud because electronic transfers created an auditable trail from the government to the final recipient (Gelb and Decker, 2012). Since the transfer of mobile payments involved banks, payments were regulated under stringent banking conditions that increased pressure on managers. As regulators frequently demanded an accurate documentation of disbursements, it was difficult for political actors to illegally divert large sums of money from the payment channels (Devereux and Vincent, 2010).

Other studies in the literature also illustrated that digital payments facilitated service provision through enhancing accountability in procedures. Studies from Argentina showed that digital payments marked a significant decline in bribes at pay-points,

resulting from which an additional value of USD $10.7 million of payments reached the hands of final beneficiaries (Pickens, Porteous and Rotman, 2009). Further, research from Bangladesh also highlighted the advantages of using m-banking in the G2P sector- driven by the goals to decrease transaction costs and minimise corruption in the social cash programme (Rotman, 2014).

However, Kemal and Yan (2015) argue that the discussion on m-banking in eliminating human intermediaries (politicians and postmen) from the delivery chain is two-fold. As presented in the case study, the need for intermediation for disbursing G2P payments was still necessary, but through other emerging financial structures. The agent infrastructure at the front-end for cashing-out G2P payments replaced former intermediaries in the delivery chain. As banking agents mediated the pay-out process for beneficiaries, m-banking inscribed new practices. In this context, Sambasivan, et al. (2010) examined how middlemen became the 'intermediated-users'- who acted as bridges to reduce the digital illiteracy gap between technology and 'beneficiary-users'. Other studies also displayed how technology established a network of intermediaries, known as *innofusion intermediaries*, in order to ensure inclusivity at the Bottom of the Pyramid (Foster and Heeks, 2013a). This reinforces the argument that m-banking created new structures at grass root levels in poor BISP communities.

The above discussion on the creation of new intermediaries within the G2P payment system may be interpreted through a power perspective. Hence, it may be argued that m-banking transferred power from human intermediaries to technology, and in doing so, reshaped structures and practices at the institutional levels which created dependencies on other social actors. However, the discussion on power networks, or power relationships *per sey* arising from new intermediaries in the m-banking ecosystem is a complex debate that affords a separate discussion.

To conclude, it is reported that BISP managers enacted m-banking for disbursing G2P payments, and their interactions with technology, primarily, facilitated their actions. This implied that m-banking was *socially-embedded* in management's context for *progressive transformation* (Avgerou, 2010). Although there were few technological constraints, inscribed in m-banking which barred BISP from attaining the targets of the Millennium Development Goals, the transformation in management's practices- via m-banking

emerged to be more prominent. Thus, through the structuration framework, I argue that m-banking restructured organisational practices within BISP, so hence was *transformative* for BISP managers.

6.2.2 Enabling and Constraining Beneficiaries' Practices

The Duality of Technology explicates the role of m-banking- both as an enabler and constraint on beneficiaries' financial practices. Although women used mobile phones for receiving G2P payments, technology also acted as a medium to condition their practices.

From the perspectives of women beneficiaries, m-banking enabled them to receive the full amount of grant without paying *baksheesh* (bribes) to human intermediaries for receiving cash payments at home. As noted earlier, m-banking replaced human intermediaries with banking/franchise agents, so the majority of beneficiaries possessing low financial and digital literacy levels, became dependent on agents for cashing-out their grants. In relation to this, there were high levels of institutional trust inherent between agents and beneficiaries. Hence, I argue that user's engagement with technology ratified new structures of trust in m-banking design (Kemal and Yan, 2015).

Other studies in the literature also indicated how local agents fostered personal trust between themselves and users of technology (Heeks, 1999; Gopakumar, 2007). Hence, m-banking conditioned new socio-economic practices for beneficiaries that were fundamentally structured around the agent-beneficiary relationship. As articulated in the literature, agents helped beneficiaries 'in-benefit' of inputting the PIN from their handsets- characterised as 'proximate enabling' and 'proximate translation' in delivering cash payments (Sambasivan, et al., 2010). So although BISP management made efforts to circumvent the entrenched traditional patronage structures, there was still heavy reliance on intermediaries, mostly male, to assist beneficiaries access their payments. In this respect, Castell (2012) argued that the use of ICTs to connect individuals enabled new forms of collective action that shifted power from institutions to people. The argument is extended in enunciating that power, to some extent, resided in intermediary structures rather than completely empowering beneficiaries as the actual users of technology. Nonetheless, agents assisted beneficiaries during 'proximate translation'

(Sambasivan, et al., 2010) despite minor incidents of fraud where agents exploited beneficiaries by pocketing some value of their grants. So whilst m-banking, more commonly, reduced fiduciary risks in enabling women to receive absolute payments, occasionally, there were few instances where beneficiaries were deceived by dishonest agents, so hence, received partial payments only.

In terms of structuration theory, I interpret how the interplay of socio-cultural rules and norms enabled and constrained beneficiaries to access mobile payments at agent locations (Kemal and Yan, 2015). M-banking represented a set of rules and resources, drawn on by beneficiaries, in their interactions with technology which signified structures of *signification, domination* and *legitimation*. Hence, m-banking reflected upon BISP's structure of *signification*, as the knowledge embedded in technology in the form of procedures and practices, directed beneficiaries' financial interactions with agents. As banking agents, or franchises were not located in close vicinity of beneficiaries, who resided in the research areas of Islamabad and Rawalpindi, the distances they travelled for collecting payments were far, albeit, less in comparison to bank branches in the nearest city. These findings were consistent with Devereux and Vincent's (2010) study that cashing-out at agents for receiving payments was more convenient for beneficiaries over cash payments, and offered greater flexibility and security. Hence, m-banking afforded greater control and choice to recipients through agents, as there were shorter waiting times and queues on payment days. As reflected in the literature, this further prevented stigmatisation of recipients, since the distinction between G2P recipients or other community members was less obvious (Barca, et al., 2010).

Moreover, the study highlighted that travel costs associated with the receipt of payments were considerably lower for beneficiaries, in lieu of travelling to the nearest bank branches in cities. It was noted that m-banking considerably reduced the average transaction time for beneficiaries as mirrored in other studies (Pickens, Porteous and Rotman, 2009; Emmett, 2012). Research from Columbia illustrated that although the average travel time to a bank was approximately half an hour for G2P recipients, the time spent on travelling to any agent was shorter, so the receipt of digital payments were more cost-effective for beneficiaries (Bold, Porteous and Pickens, 2012).

Through the Duality of Technology framework, I interpret that m-banking re-structured social networks and practices within BISP communities. Beneficiaries reorganised themselves into groups to share the costs of travel which also helped them overcome the socio-cultural barriers associated with women travelling alone (Kemal and Yan, 2015). This explicated that group travel, not only created social capital, but also cemented social bonds within communities that were structured around technology. Hence, user's recurrent engagement with technology reconstituted new social relationships and practices within BISP communities (Orlikowski, 1992). This contradicts earlier studies which depicted that mobile phones created the 'individuation' of society, as contrariwise, the research insinuates that mobile technologies augmented communal and social relationships for beneficiaries. Thus, m-banking enabled women to escape from their 'psychological traps' by expanding their social connections and networks through mobile technologies (Tarafdar, Singh and Anekal, 2013). Arguably, beneficiaries' interactions with m-banking gave rise to new practices that instituted new networks of community members in support of societal structures. However, in few patriarchal households, m-banking practices were seen to clash with traditional cultural norms that created friction amongst household members. In these families, mobile phones represented structures of significance which were conceived to be symbolic tools for freedom, since beneficiaries' husbands took possession of their phones in order to sustain their power and authority. Some of these effects of m-banking on women's empowerment will be explained further in the Chapter.

However, the critical issue that emerged was that human constraints, impaired beneficiaries' usage of mobile phones (Kemal and Yan, 2015). The majority of beneficiaries lacked basic levels of digital and financial literacy, so hence, in the absence of formal/informal training offered by BISP, they were crippled and reliant on intermediaries for cashing-out payments. In reflection of this, it may be argued that m-banking was perceived to be more user-friendly for men, as the 'surrogate usage' of technology by 'intermediated-users' were primarily male agents (Sambasivan, et al., 2010). Further, the same technology was enacted differently by men and women users which altered the structural properties of m-banking through usage. Moreover, it was unveiled that the use of mobile technologies was higher among men, in comparison to women beneficiaries, who hailed from the same socio-economic group in G2P

households. This gives rise to the discourse that the m-banking interface was not user-friendly for women, as it did not match their capability levels (Kemal and Yan, 2015). In addition, it was discovered that beneficiaries were not notified of payments through the prescribed interactive voice recording (IVR), which otherwise may have facilitated their usage of mobile phones.

In this vein, Gurumurthy (2004) postulated a gendered view on technology in arguing that the disengagement of women with technology was essentially entrenched within historical and cultural views that conceived technology to be 'masculine' in nature. Hence, cultural values and practices excluded women's access to, and power over different technologies. Thus, the assumption that a so-called gender-neutral view on information technology that aspires to benefit an entire population, regardless of gender, may not be grounded in reality (Hafkin, 2002; Spence, 2010). In this context, m-banking design may need to embody the capabilities of women beneficiaries in enabling them to overcome the technology design-user gap. This is because a literate beneficiary enacts the structural properties of m-banking differently from an illiterate one. Buskins and Webb (2009) also reasoned that ICTs should be exploited in ways to create new spaces for women, which may only happen after creating their capabilities to use mobile technologies.

Needless to say, research from India also mirrored that digital G2P payments constrained women beneficiaries, despite the country's higher female literacy rate in comparison to Pakistan. Rotman (2013) highlighted that beneficiaries, as passive users of technology were also dependent upon middlemen in facilitating their interactions with technology for cashing-out payments. Another study from India further confirmed that G2P recipients, both male and female, faced financial and technical challenges during the receipt of their wages through digital technologies (Morawczynski, et al., 2010).

Furthermore, through DoT, it is reflected how technological constraints were implanted in the material artefacts of mobile handsets that affected beneficiaries' usage (Kemal and Yan, 2015). There were frequent cases reported of mobile handsets being damaged, lost, or stolen. Other technical issues, included blocked SIMs and mobile accounts, owing to discrepancies between the names registered with the mobile number against

beneficiary's computerised national identity card (CNIC) posed administrative problems. In harmony with other studies (Emmett, 2012) digital payments were more secure through the successful authentication of PINs, or other biometric indicators, such as fingerprints for identification purposes. Such unique identifiers reduced the risks of delivering the grants to fake beneficiaries, and thereby, ensured greater security levels in eliminating 'ghost' beneficiaries from the NADRA database. For instance, in South Africa and India, digital payments coupled with biometric identification, curtailed payments to unregistered beneficiaries by 12-25 percent (Gelb and Decker, 2012). Moreover, infrastructural constraints related to poor mobile coverage, weak signal issues and power outages in remote districts led to delayed payments. In this context, some scholars argued that scepticism remains if scarce resources should be invested in mobile technologies, in particularly, if the ICT infrastructure is ineffectual for certain digital interventions in developing nations (Thompson and Walsham, 2010).

6.2.3 Interpretive Flexibility - Technology-in-Practice

Furthermore, it is interpreted through the Duality of Technology framework how m-banking had certain implications for beneficiaries- providing little control over when and how to use their mobile phones, and with little discretion, which meanings and elements influenced their usage and interactions with technology (Orlikowski, 1992). The notion of *interpretive flexibility* reshaped socio-technological practices, as beneficiaries improvised mobile phones for voice communications that amplified their personal social and communication networks. In this context, the social construction of technology enunciates the role and scope of beneficiaries in shaping and appropriating technologies that gave rise to technology-in-practice (Orlikowski, 2000). Whilst the capacity and effects of technology on beneficiaries were perhaps a matter of interpretation by social actors, their modification of mobile practices went beyond designers' expectations and inscriptions (Orlikowski, 1992). As many beneficiaries were seen to visit internet café's to learn about their payment statuses, new social and technological practices evolved around technology. Other emergent practices nurtured new communication channels that cemented social and personal bonds of kinship and trust within G2P communities as voice communications were conceived as the technology-in-practice (Donner, 2004; 2006; 2007; 2009; Molony, 2006; Smith, Spence and Rashid, 2011). Notwithstanding,

some beneficiaries were considered to be knowledgeable and reflexive as human agents, so were capable of altering and controlling the effects of technology (Orlikowski, 1992).

Furthermore, *interpretive flexibility* accounted for how m-banking extended opportunities to certain social actors who established their micro-businesses around m-banking in G2P communities. Thus, new technological practices were embedded in technologies that produced and reproduced new structures of significance around mobile payments. As new socio-economic patterns of behaviour emerged amongst beneficiaries, their roles shifted from being passive consumers to active innovators or producers of technology (Heeks, 2008; 2009). Moreover, while mobile technologies reinforced the social and business information needs of poor beneficiaries, these findings were in harmony with studies which validated that mobile technologies were used as strategic tools for poverty reduction in households (Frempong, 2009; Donner and Escobari, 2010; Aker and Mbiti, 2010). Although research has signified the role of mobile phones in nurturing social communication channels and increasing incomes for micro-entrepreneurs (Donner, 2006; 2007; Jensen, 2007; Jagun, Heeks and Whalley, 2008), these considerations may not stand relevant for this study. This is because the phase out of mobile technologies from the programme has eliminated any future prospects of technology playing any positive role in triggering economic activities in households. More profoundly, this also questions the effects of ICTs, or mobile technologies in reducing the digital divide in rural communities which otherwise may have represented a form of *thintegration* into the global economy to promote an information society in future (Carmody, 2009; 2013).

6.3 Institutional Effects on Socio-Economic Properties of Households

Within the Duality of Technology framework, the level of analysis shifts from the individual to the household levels in examining the effects of m-banking on re-structuring household dynamics. This relationship is illustrated through the '***institutional consequences of interaction with technology' (process d)*** that corresponded to the last research question in this study.

Hence, within the Duality of Technology framework, I draw the relationship between m-banking and its effects on re-structuring the social and economic parameters within BISP households. The findings revealed that the socio-economic and demographic profiles of beneficiaries- based on age, education, family structure/size, employment status, skills and household income levels were critical resources that determined household's structural properties.

6.3.1 Reinforcing Existing Financial Structures for Poverty Alleviation

The effects of m-banking on women beneficiaries, as discussed in the previous section, had consequences on the institutional levels in BISP households. The enabling and/or constraining effects of m-banking were internalised to represent new structures of *signification*, *domination* and *legitimation* that determined financial practices. However, through the lens of Duality of Technology, I contend that m-banking reinforced and aligned with existing financial structures, as it reduced income poverty whilst contributing to the economic welfare of poor G2P households. Hence, m-banking delivered mobile payments that supplemented households' incomes, and in doing so, underpinned existing economic structures. Moreover, m-banking enhanced household's welfare in providing the basic necessities of life- food security, clothing and medicines. These *positive effects* of m-banking enhanced the quality of life for beneficiaries and alleviated acute poverty in many households (Kemal and Yan, 2015). Further, these findings concurred with studies from South Africa, Ecuador and Mexico, where G2P transfers were instrumental to improve the dimensions of nutrition and health in poor communities (Aguero, et al., 2007; Paxson and Schady, 2007; Cunha, 2010).

However, the discussion presented here is two-fold. As there was a high dependency on mobile payments, the majority of beneficiaries cashed-out their grants immediately, without leaving any money in their mobile accounts. Hence, the flexibility that m-banking offered to beneficiaries in retaining savings in accounts was not utilised. Although mobile payments provided short-term relief from chronic poverty, the amount was trivial for some beneficiaries. Further, the nature of mobile accounts offered to beneficiaries, confined them to money withdrawals only, so m-banking design constrained financial practices within BISP households (Kemal and Yan, 2015).

Further discussion on the relationship between technology and its effects on economic structures, unveiled that many beneficiaries were oblivious that they possessed bank accounts. Generally, while most households were unable to save from the grant money, few households, with minimal savings, were unable to deposit funds in their mobile accounts. This impeded opportunities for beneficiaries to invest in physical or capital assets for engaging in the micro-entrepreneurial sector. In addition, m-banking failed to deliver micro-credit facilities. So whilst m-banking delivered G2P payments which improved the economic welfare of many households, it is argued that it failed to embed other financial resources to structurally transform the economic properties of BISP households. In this context, economic change was marginal, despite increasing household's economic resources. Although m-banking cushioned many households from extreme economic shocks, it was insignificant for socio-economic transformation (Kemal and Yan, 2015). Hence, m-banking was palliative in nature as it reduced income poverty, but was futile to address the root cause of poverty (Carmody, 2013). Further, it was observed that m-banking increased resources, so diminished the economic pressures in low-income households with the compulsion to seek employment in cities through rural-urban migration (Baro and Endouware, 2013).

Nonetheless, the programme's objectives were mainly directed towards achieving the Government's targets for reducing income poverty in BISP households (United Nations Human Development Report, 2013). Thus, m-banking represented structures of *signification*, *domination* and *legitimation* that assimilated new rules and resources from political actors to address poverty rather than increase households financial access as a poverty exit strategy (Aduda and Kalunda, 2012; Meganathan, Kumar and Gandhi, 2015). Through the prism of DoT, it is analysed how m-banking was institutionalised in households to augment existing economic structures because of its acquired legitimacy in compliance with socio-economic practices. In the next section, the financial inclusion discourse is examined to illuminate how socio-technological constraints, embedded in m-banking, limited financial inclusion in poor BISP households.

6.3.2 Limited Financial Inclusion

Corresponding to the United Nations Millennium Goals for poverty alleviation, many developing countries have set financial inclusion as a key government policy in their

efforts to switch to digital G2P payments (Bold, Porteous and Rotman, 2012). In my case study of the Benazir Income Support Programme in Pakistan, I showcased that transparency in delivering G2P payments was the primary objective behind implementing m-banking, rather than financial inclusion, although the two objectives may go hand in hand with each other (Kemal and Yan, 2015).

Through the Duality of Technology framework, it is highlighted that the relationship between m-banking and institutions is linked to user's recurrent engagement with technology. Whilst m-banking, no doubt, connected millions of unbanked women to bank accounts, the effects it had on financial inclusion were rather insignificant. According to Porteous (2007), m-banking may be transformative in banking the unbanked population for financial inclusion. However, the possession of bank accounts does not automatically suggest financial inclusion (CGAP and World Bank, 2010). In this study, the scope of financial inclusion incorporates financial awareness and access to and usage of bank accounts as presented in studies (Morawczynski, et al., 2010; Ehrbeck, et al., 2010; 2012). In order to evaluate the institutional effects of m-banking on households, I discuss how structural transformation, or financial inclusion in households is contingent upon two critical factors. First, the close proximity of agents for cashing-out by beneficiaries, and second, the nature of bank accounts in extending financial services, as recounted in Chapter 2. In this context, Figure 6.1 illustrates the stages of financial inclusion in households that informs my discussion in the next section.

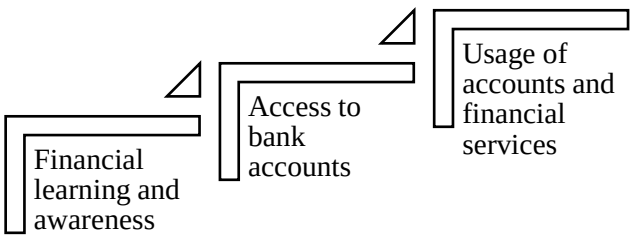

Figure 6.1: Stages of Financial Inclusion related to the Nature and Usage of Accounts

Bank-led Model- Limited Agent Outreach

Although the branchless banking infrastructure facilitated by mobile phones permitted a front-end infrastructure- via agents for cashing-out mobile payments, BISP favoured larger banks which partnered with mobile operators and created their own exclusive network of banking agents. Hence, in many regions BISP enabled banks to build the agent infrastructure, rather than leveraging on established m-banking providers with extensive agent networks in rural communities. As the literature signified, such a bank-led m-banking model was conservative in limiting agents outreach, or number of cash-out locations for recipients (Mishra and Bisht, 2013). In the research sites of Islamabad and Rawalpindi, beneficiaries received their grants at Summit Bank branches, Ufone franchises, or agents which were not located within close vicinities of beneficiaries' homes. This reinforces the argument that in order to increase beneficiaries' access to multiple cash-out points, G2P programmes may need to embrace more flexible partnership-led, or mobile operator-led models with extensive agent/retail networks (Mas, 2009; Merritt, 2010). Consequently, this presents greater opportunities to G2P managers in extending the coverage of mobile payments to beneficiaries residing in more remote regions of the country.

Nevertheless, there was heavy reliance on the expensive closed loop infrastructure that was explicitly set up for G2P recipients, so arguably, the m-banking model constrained beneficiaries access to financial structures. However, with increasing popularity of the G2P sector embracing digital channels, regulators may pose questions of inter-operability pertaining to m-banking business models. In the light of this discussion, studies reflected that some countries espoused mobile operator-led models in order to replicate M-PESA's success in Kenya (Camner and Sjoblom, 2009; Mas, 2009). As unveiled in the case study, regulators need to be more permissive in supporting flexible m-banking models as an optimal solution in maximising financial access. To this effect, Mishra and Bisht (2013) claim that flexible m-banking models extend the attributes of security and safety of a bank, in addition to the coverage and accessibility of a mobile service provider. Hence, the bank-led model in this case study restricted financial access for beneficiaries enrolled in the BISP programme (Kemal and Yan, 2015).

Nature of Accounts - Limited Access and Usage of Financial Services

Whilst Pickens, Porteous and Rotman (2009) painted a rather rosy picture that digital G2P payments promoted a higher degree of financial inclusion in poor households, the findings from this case study suggest otherwise. This was showcased after investigating the type of bank accounts offered to beneficiaries and whether they were utilised for undertaking any financial transactions. As signposted earlier in Figure 6.1, financial inclusion is a step-wise process which not only entails access to bank accounts, but also the provision of a fuller array of financial services to G2P recipients (Ehrbeck, et al., 2010). In the context of my study, beneficiaries were provided with limited purpose instruments that restricted their access to and usage of financial services, so hence, constrained their financial practices.

Other studies from middle income countries also displayed that initially beneficiaries were offered limited purpose accounts which were later converted into financially inclusive accounts (Bold, Porteous and Rotman, 2012). In the case of BISP, limited purpose accounts served as a landing spot, earmarked for beneficiaries, and offered greater flexibility in cashing-out at multiple locations- even though account functionalities restricted financial practices. Moreover, the funds in the accounts were not stored indefinitely, so if not withdrawn within a specific time period, BISP reclaimed the funds. Consequently, this put pressure on beneficiaries to instantaneously withdraw their payments in a single transaction as the majority were not aware of withdrawal times. Since mobile accounts were confined to withdrawals only, no further monies could be deposited into savings, or payments transferred to other accounts. Hence, beneficiaries did not have access to financially inclusive accounts for depositing savings, making payments, or accessing micro-credit/insurance from banks. This validates the argument that without access to, and usage of a broader spectrum of financial services (as shown in Figure 6.1) financial inclusion *per se* was limited for eradicating poverty in BISP households in Pakistan.

Further, in connection to DoT, the effects of m-banking on financial inclusion in households were a consequence of technological constraints embedded in m-banking design. Although banks prescribed a set of rules that were entrenched in technology, these alone did not suffice for full financial inclusion. Moreover, as banks did not cross-sell other financial services, including mobile transfers, m-savings, m-credit or m-

insurance, financial inclusion was constrained in households (Kemal and Yan, 2015). Hence, the argument presented here is that beneficiaries' accounts did not serve as gateways in connecting them to the mainstream economic sector. So realistically speaking, m-banking was not transformative for socio-economic change in households, hence, financial inclusion was confined to the infancy stage.

Furthermore, the findings from the case study synchronised with other studies from middle income countries (Bold, Porteous and Rotman, 2012) where the majority of accounts provided to G2P recipients were also basic 'no-frills' accounts with limited functionalities. However, authors claimed that limited purpose instruments were not subpar solutions that should be avoided altogether, but rather be deployed in such a manner to be easily converted into mainstream accounts. So although most recipients were initially paid into limited purpose instruments, over the years, the proportion of G2P payments paid into financial inclusive accounts had substantially increased in providing beneficiaries with monetary storage and transactional functionalities (Bold, Porteous and Rotman, 2012). Similarly, research from India also confirmed that digital G2P payments were initially deposited into entry level bank accounts that offered households a safe place to store and access funds- even though G2P recipients were largely unware of the potential linkages of the accounts with saving benefits (Lochan, et al., 2010; Rotman, 2013).

To conclude, I argue that m-banking restricted innovative transformation in households, so financial inclusion was confined to the lower stages. The controls placed on users' accounts symbolised that mobile accounts were symbolically designed for receiving G2P payments, so may act as stepping stones towards the fuller notion of financial inclusion in future. Hence, m-banking channels should aim to promote beneficiaries' access to financially inclusive services for steering micro-entrepreneurial activities in poor communities (Kemal and Yan, 2015).

6.3.3 Increased Financial Awareness and Learning

The literature informed that social inclusion and financial inclusion may be part of the same concerted efforts, undertaken by governments, as policy priorities in the fight

against poverty (Dancey, 2013). From the study, it is inferred that financial inclusion was reinterpreted as social inclusion- in terms of increased financial awareness and learning amongst women beneficiaries. As the term was interpreted through value judgements constructed by various participants, this underpinned the ontological stance of social constructionism in the study. Hence, following the logical argument, social inclusion constitutes the first stage of financial inclusion which encompasses the digital inclusion of beneficiaries in socio-economic structures within G2P communities (Kemal and Yan, 2015).

In this context, financial inclusion was manifested through a steep rise in beneficiaries' learning curves as their financial and digital literacy levels, over time, had significantly increased. Through the lens of Duality of Technology, I further interpret how the constant informal interactions of beneficiaries with technology, mostly through trial and error, familiarised them with mobile phones' functionalities. In particular, beneficiaries enacted social practices that enabled them to access their mobile payments. As highlighted earlier, technology was *interpretively flexible*, so beneficiaries modified their engagements with technology. Given beneficiaries' low levels of technical skills, they appropriated technology that influenced their actions and practices. Hence, beneficiaries' social practices were emergent from their interactions with technology as part of the financial inclusion process. Similarly, in the light of other studies, digital payments provided beneficiaries new opportunities to learn how to use modern technologies that bridged the digital divide in low income households (Devereux and Vincent, 2010). Moreover, the World Bank Report (2009) advocates the case for financial literacy in promoting access to finance through the empowerment of consumers in developing countries.

Furthermore, *the unintended consequences of technology* within DoT, examines how certain social practices, in relation to beneficiaries' unawareness of their accounts, affected the financial inclusion outcomes. These findings concurred to research in Kenya where only 10 percent of G2P recipients were financially aware of storing money in their accounts (Barca, et al., 2010). Therefore, authors have stressed the importance of providing informal education or training as part of the financial inclusion drive to foster

financial inclusion in G2P households (Morawczynski, et al., 2010; Kemal and Yan, 2015).

Moreover, as m-banking was institutionalised in households, its effects in reducing social poverty, such as enhancing the education and health indicators were rather marginal. As education was perceived as a secondary emergency after hunger, the enrolment of children in primary schools were low. In addition, beneficiaries were not provided the opportunities to develop their skills through vocational training programmes for securing employment. Hence, capabilities development is mandatory for expanding human capabilities to seek jobs in labour markets. As a preliminary step to advance financial inclusion, it is vital to design resources into m-banking design in order to promote human development. This may have positive consequences on the structural transformation of households that steers the poverty exit strategy in the case study (Kemal and Yan, 2015).

6.3.4 Social Inclusion- Transformative

The Duality of Technology framework establishes that the implications of m-banking on the social dynamics of households were intricately guided by the application of normative sanctions prevalent within households. This suggests that moral order was articulated and sustained through rituals, traditions and socialisation practices that legitimised m-banking through a negotiation process for *progressive transformation*, or else, it led to *disruptive transformation* in few G2P households (Powell, 1987; Orlikowski, 1992; 2000; Avgerou, 2010).

Social Empowerment and Change

In the case study, social inclusion in households was linked to beneficiaries' possession of national identity cards which had an empowering effect on their social standing. Hence, m-banking made it mandatory for women to possess identity cards in order to receive G2P payments that became critical markers to induce social change within households. Through DoT, it is further interpreted that beneficiary's interaction with m-banking enacted structures which institutionalised new moral order within households.

These social structures were legitimised through norms and rules and were closely entangled with emergent social practices that were perceived to be *progressively transformative* (Avgerou, 2010) in BISP households (Kemal and Yan, 2015).

Revisiting DoT, it is elucidated that the empowerment of beneficiaries were embedded as structural properties of m-banking. Whilst the national identity cards granted social freedoms to beneficiaries that contributed towards their social well-beings, additionally, women were also recognised as state citizens for the very first time to enhance their political freedoms. As a result, beneficiaries were eligible to vote in the national elections which rendered access to government services and political structures. Hence, m-banking signified structures of *legitimation* as technology sanctioned certain socio-political norms and practices that contributed towards social transformation in communities. Further, as m-banking connected beneficiaries to financial structures, it boosted their confidence in handling financial affairs and decisions regarding the utilisation of resources. Arguably, as beneficiaries were entitled to receive the grants, m-banking played a decisive role to augment their financial independence, self-reliance and personal pride. According to BISP officials, these positive effects of m-banking boosted the social indicators in the community as they represented financial inclusion in households (Kemal and Yan, 2015).

The discourse on women's empowerment further evaluated how mobile technologies were infused into the social spheres of BISP households. The use of technology by women to access mobile payments elevated their self-esteem, decision-making power and authority within their respective families. Thus, m-banking symbolised financial securities in expanding beneficiaries' personal freedoms, specifically, in relation to their domestic responsibilities and reproductive roles in their households. Within the structuration framework, the consequences of m-banking on the social properties of households was *progressively transformative*, and indicative through the growing recognition and participation of beneficiaries in social structures. However, the discourse that women's empowerment was intricately entrenched into gender power relations and division of labour within households, affords a complex debate that lies outside the domain of this thesis.

Dismantling Power Relationships

The discussion on social inclusion is presented as a two-fold debate. The study revealed that in few households, m-banking had negative consequences on the social properties of households as the socio-political context unfolded from the effects of technology.

Although some beneficiaries were coerced to present their mobile phones to their husbands, this practice did not affect their payments. Whilst certain rules and norms enhanced beneficiaries' personal freedoms, some husbands in patriarchal settings perceived m-banking as a threat to their male supremacy, or machoism. Hence, through DoT, it is interpreted that m-banking conditioned practices that dismantled the pivot or equilibrium of power and transferred power to beneficiaries in social structures. However, the concept of women's social empowerment is multidimensional in nature owing to myriad contextual factors (Kabeer, 1999; 2005). Therefore, it is argued that it may be hard to achieve full freedoms by enhancing women's agency alone. This is because other structural constraints, such as discriminatory gender power relations or division of labour may also contribute to the gender debate, so structuration theory offers limited insights on complex power issues in the study.

However, surprisingly, majority of men supported mobile payments as they were freed from their financial responsibilities and pressures in seeking additional work for improving their livelihoods. Arguably, whilst m-banking stripped men from their financial duties, few women complained that it affected familial relationships leading to greater family disputes (Morawczynski, 2009; 2011). It is explicated through DoT how these *unintended consequences of technology* ravaged the entrenched interests and trust between family members in affecting social cohesion in certain households. Hence, it may be correct to infer that under such circumstances, m-banking caused *disruptive transformation* in households (Avgerou, 2010).

In conclusion, social inclusion did not occur blindly, but was rather guided by the application of normative sanctions that were legitimised through technological practices (Orlikowski, 1992), either for social cohesion- *progressive transformation*, or conflict-*disruptive transformation* (Avgerou, 2010). Hence, m-banking was enacted and appropriated by beneficiaries who either reinforced, or transformed the existing norms, since moral order was articulated and sustained through rituals, tradition and

socialisation (Orlikowski, 1992). As m-banking sometimes developed in unanticipated ways, it was normalised by a negotiation process through which new norms and rules were institutionalised within socio-economic structures in households (Powell, 1987; Orlikowski, 1992; 2000; Avgerou, 2001). On a deeper level, I argue that the analysis discounted the incompatibilities between cultural systems and the functional aspects of power relations that were prevalent in certain households. Hence, the structuration framework inadequately addressed the complex issues of power networks that may have been symbolic to change cognitive systems through the reflexive behaviour and actions of social actors in organisations (Markus, 1983; Powell and DiMaggio, 1991; Meyer and Rowan, 1991; Zucker, 1991; Avgerou and McGrath, 2007).

Moreover, the DoT framework was deficient to explain the relationship between technology and the less knowledgeable actors- who were constrained through technological practices. Thus, I argue that m-banking was deterministic for women beneficiaries and offer alternative insights on the potentials of m-banking in enhancing the capabilities of beneficiaries for financial inclusion. The next section extends the discussion beyond the analytical framework of structuration to examine how technology may combine the vision of capabilities development in order to foster inclusive innovation in BISP households in the study (Kemal and Yan, 2015).

6.4 Mobile Banking for Capabilities Development

The theoretical framework illuminated the socio-technical and economic effects of m-banking on the institutional properties of BISP households. However, besides socio-technical constraints inherent in m-banking design, what emerged from the findings were that human constraints restricted financial practices for structural transformation, or financial inclusion in households. As the use of technology was deterministic for beneficiaries, I argue that m-banking may embody capabilities development in its design in order to overcome the challenges for users. Thus, capabilities development may provide the intermediary route for beneficiaries to graduate to higher levels of financial inclusion and may lead to poverty graduation in BISP households (Kemal and Yan, 2015).

Whilst the structuration framework of technology presented a socio-technical lens to evaluate m-banking innovation, it underscored that the rationale of technologies for development was rather prescriptive in the study. In this respect, structuration theory of technology discounted how m-banking intersected with human agents who were constrained in their interactions with technology. To this effect, I combine DoT with Sen's paradigm of human development- the Capabilities Approach (Sen, 1999; 2000). The extension of the analytical framework through the Capabilities Approach (CA) offers new theoretical insights to analyse how capabilities development provides the platform for the economic transformation of household structures (Kemal and Yan, 2015).

Although Sen's Capabilities Approach has been influential in the ICT and mobile technologies literature (Hamel, 2010; Smith, Spence and Rashid, 2011), its application in the G2P context remains limited. Thus, I advance the discussion to present how m-banking may be appropriated by BISP managers to inscribe the capabilities vision in enabling beneficiaries to enact new structures for capabilities development. This implies that m-banking design may imprint schemes for enhancing beneficiaries' education and skills that are essential for capacity building for transforming the socio-economic properties of households (Kemal and Yan, 2015).

Hence, the new research framework exhibited in Figure 6.2 on the next page extends the conceptual model presented in Figure 3.2 in Chapter 3. It illustrates how capabilities development has been assimilated into the existing model. In doing so, the new framework contributes to the theoretical and practical streams of ICT for Development literature in the study.

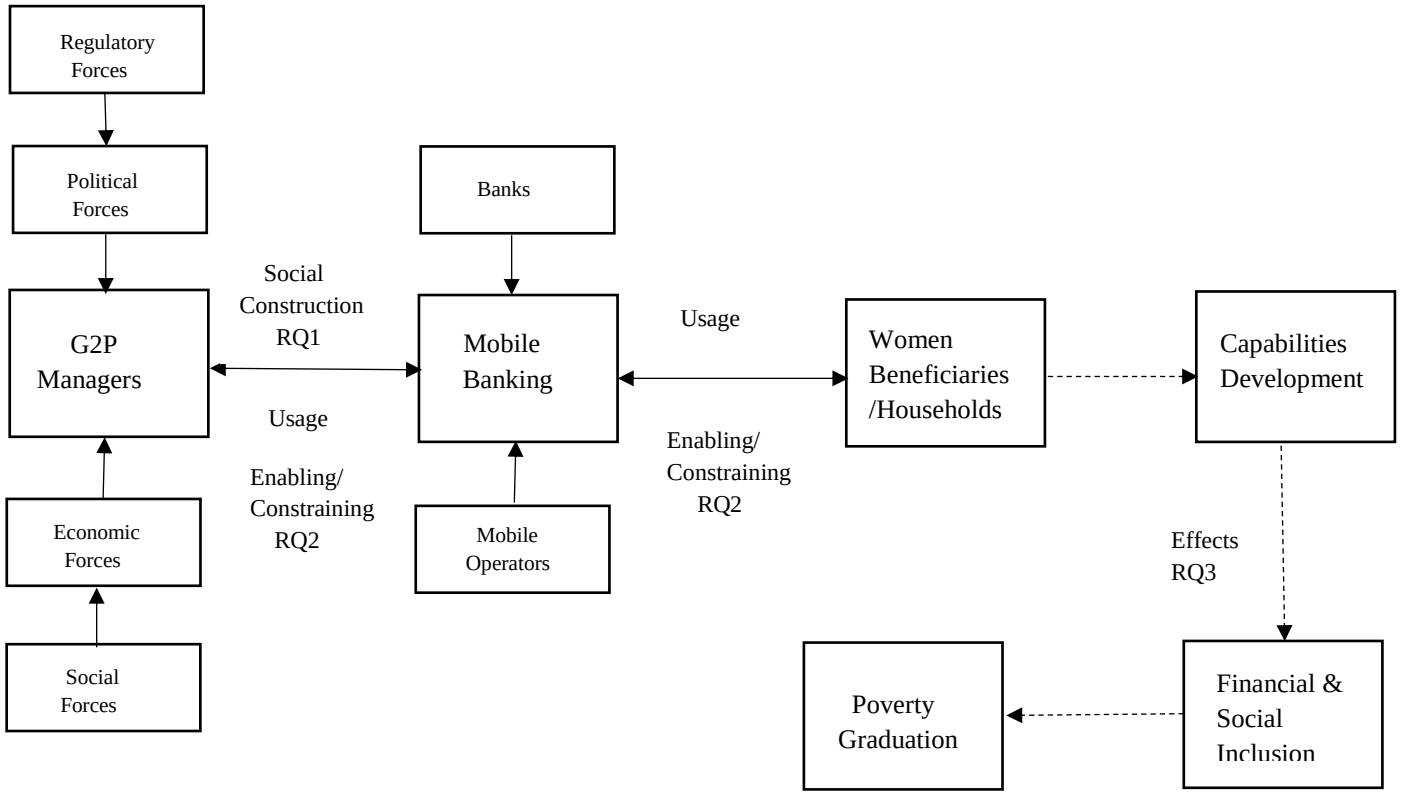

Figure 6.2: The Emergent Conceptual Model- Relationship between Capabilities Development and Financial Inclusion in Households for Poverty Graduation

6.4.1 Capabilities Approach for Financial Inclusion

In *Development as Freedom*, as recalled in Chapter 2, Sen (1999) classified impoverished lives as the deprivation of freedoms, or the inability to undertake important activities that one might chooses to value. Whilst the theoretical framework delimited our discussion to socio-technical and economic parameters to evaluate the structural effects of m-banking on impoverished households, the integration of the Capabilities Approach in the current framework, extends the analysis to shed light on how beneficiaries' capacities may be enhanced for the structural transformation of households. In this context, I present how m-banking may be used, as a channel, to overcome 'human poverty', through expanding beneficiaries' capabilities to achieve financial freedoms. Hence, by offering a non-utilitarian perspective for exploring complex development issues, Sen's vision in the framework operationalises the relationship between ICTs and human development which is transformative for socio-economic change for poverty graduation in households.

Within the Capabilities Approach (Sen, 1987; 1992), the major constituents are *capabilities* and *functionings*. Whilst a *functioning* is perceived as an 'achievement', a *capability* is the 'ability to achieve' that particular functioning. As Sen (1987) highlighted, '*capabilities are notions of freedom in the positive sense- what real opportunities you have regarding the life you may lead' (*Sen, 1987, p. 36). Hence, Sen articulated that *functionings* are directly related to the living conditions, and since there are different aspects of living conditions, different *capabilities* and *functionings* are relevant across variable contexts. In order to achieve a specific *functioning*, *capabilities* may vary and may require unique resources within that particular institutional setting, norm and social structure (Sen, 1987). This links to structuration in the sense that within a specific institution, technology designers draw upon the norms, rules and resources that becomes part of the structural property of technology.

Furthermore, Sen (1985) perceived individuals' capabilities from two different perspectives- the *well-being* and the *agency* aspect. Whilst *agency* is defined as the freedom to set and pursue one's own goals and interests through action, the pursuit of

one's *well-being* may be one of the goals. Hence, according to Sen, a person is viewed as an *agent* as opposed to a *patient*- whose individual well-being may be one of the primary concerns, and through capabilities, he/she may actively seek freedoms. Therefore, I argue that the Capabilities Approach focuses on enhancing human capabilities that are a means to achieve well-being and agency freedoms. However, it is noted that *agency*, as defined in the Duality of Technology framework, refers to capability and not intentionality that is reflected through more knowledgeable and reflexive human action, although the actions taken by individuals are voluntary and may have intended and/or unintended consequences. Hence, in structuration, capabilities are not perceived as the abilities to achieve certain actions, as individuals are assumed to already possess the capabilities to undertake informed actions. However, I underline that the structuration framework did not account for the less knowledgeable agents, or women users with limited capacities.

Whilst DoT evidenced how m-banking achieved well-being freedoms or social inclusion, it was observed that the achievement of agency freedoms or financial inclusion was limited in the study. By integrating the Capabilities Approach (Robeyns, 2003; 2005; Kleine, 2009; Qureshi, 2010; 2011) in the framework, I explicate how m-banking through *interpretive flexibility* may be improvised or redesigned by BISP managers to embed resources to enhance beneficiaries' capabilities, human and financial, for micro-entrepreneurial development to achieve *functionings,* or financial inclusion (Kemal and Yan, 2015).

Figure 6.3 illustrates this relationship, in particularly, how m-banking may affect the institutional properties of G2P households for socio-economic transformation, or financial inclusion that leads to poverty graduation in BISP households in the study.

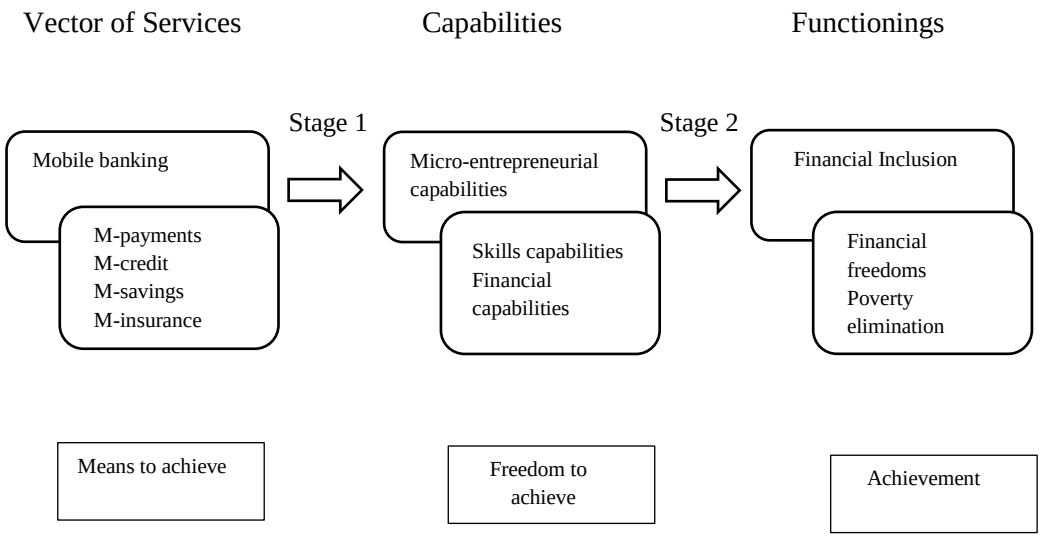

Figure 6.3: Relationship between M-banking and Capabilities Development for Financial Inclusion

As Figure 6.3 depicts, in the first stage, m-banking may deliver financial resources to beneficiaries in providing them the means to acquire entrepreneurial skills through vocational training schemes. This may expand their human capabilities or capacities in enabling them to determine their choices for freedom. After building human capital, m-banking may provide access to financially inclusive services, for instance, m-credit, m-savings/insurance in facilitating beneficiaries to acquire physical assets to build their financial capabilities for micro-entrepreneurial development. In the second stage, both human and financial capabilities transform into *functionings*, or achievements for financial inclusion (Sen, 1999). Hence, by embedding new structures for capabilities development, m-banking may represent new structures of *signification, domination* and *legitimation* that may lead to *progressive transformation* (Avgerou, 2010) or financial inclusion in BISP households. In this way, programme managers may embody financial inclusion and poverty graduation, into a single objective, during m-banking innovation.

6.4.2 Revisiting Structuration - New Framework for Financial Inclusion

The Duality of Technology, as a theoretical lens, helped to critically evaluate the discourse on mobile technologies for development which emerged to be deterministic, unless combined with the Capabilities vision. Hence, the new framework offers insights that underpins BISPs efforts in building a financially inclusive system through m-banking channels. It affords an analytical lens that articulates how m-banking may be redesigned to overcome the socio-technical and human constraints that restricted financial inclusion in BISP households (Kemal and Yan, 2015). As beneficiaries with limited capacities interacted with m-banking, the structuration framework of technology was perceived to be deterministic for women beneficiaries. Hence, the integration of the Capabilities Approach in the framework theorises how technology may embed resources to enhance beneficiaries' capabilities for structural transformation in households.

First, by imparting basic financial and digital training to women; second, by providing compulsory vocational training schemes to enhance their skills; and third, by providing financially inclusive services to beneficiaries for micro-entrepreneurial development. Whilst this framework may be criticised in being prescriptive, however, my focus on capabilities development suggests that its user-oriented approach seeks to overcome technological determinism that was reflected in the ICT4D discourse.

In Figure 6.4, capabilities development, as a theoretical proposition in the framework unfolds the relationship between m-banking and human agency that may transform the institutional properties of households through structural transformation, or financial inclusion (Kemal and Yan, 2015). The extended framework, hence, contributes to the theoretical stream of ICT4D knowledge, as further discussed in the final Chapter.

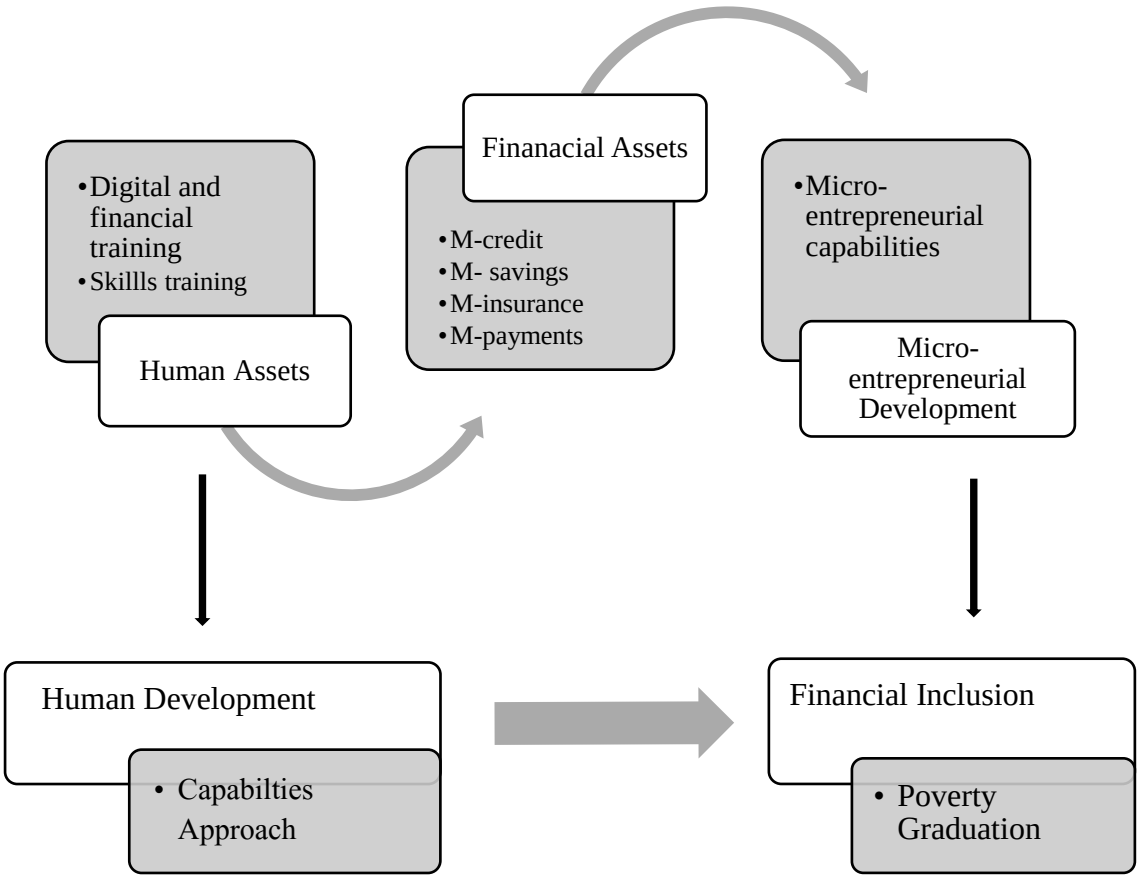

Figure 6.4: Revisiting Structuration through Capabilities Approach for Financial Inclusion

6.5 Summary

In this chapter, I interpreted the research findings in the light of the research framework-Duality of Technology to answer the research questions in the study. As m-banking was socially constructed through various interpretive schemes, the financial inclusion objectives were secondary over achieving transparency in the delivery of mobile payments. Moreover, the developmental discourse pertaining to the design of m-banking in the programme was influential to reduce income poverty in households, while social inclusion was perceived to be transformative. However, human and technological constraints were embedded in m-banking design that restricted financial inclusion in BISP households. Hence, m-banking innovation overlooked the individual capacities of women beneficiaries that constrained their usage of technology, and affected their

financial practices. To this effect, I discussed how the framework may combine Sen's Capabilities vision in order to enhance user's capabilities, or skills, in addition to providing financial resources for micro-entrepreneurial development. Hence, by complementing Sen's Capabilities Approach within the structuration framework, new theoretical insights are gained on how the structural redesign of m-banking may lead to capabilities development for inclusive innovation, as a poverty exit strategy for BISP households in Pakistan.

Chapter 7: Conclusions and Contributions

7.0 Introduction

In the final chapter, I conclude the research and divide the chapter into four sections. First, I summarise the research outcomes in evidencing that the research aims were accomplished. Second, I justify the scholarship achieved by illuminating the key contributions to knowledge in three primary areas- theory, practice and method that informs the Information Communications Technologies for Development (ICT4D) literature which is located within the ISDC domain. Third, I discuss the practical implications and recommendations for stakeholders in seeking to bridge the gaps between theory and practice. Fourth, I highlight some of the limitations in the study that opens further avenues for undertaking future research.

7.1 Achievement of the Research Aims

This section demonstrates how the research outcomes have addressed the research questions in achievement of the aims of the study.

Research Question 1: How is the social construction of m-banking design influenced by external and internal institutional forces in the G2P programme?

The first research question investigated the role of external and internal institutional forces that influenced the design of m-banking into the Benazir Income Support Programme (BISP). Orlikowski's Duality of Technology (1992) offered a socio-technical lens to gain insights on m-banking innovation that accentuated the *duality the technology* within the social construction process. This relationship within DoT explored the influence of various interpretive schemes- political, regulatory, economic, social and international which were significant in the transition from cash to mobile payments in the programme. Moreover, I highlighted how the interpretive schemes provided different norms, rules and resources that were embedded into the structural design of m-banking by BISP managers. Hence, m-banking was created through a socio-political process that

involved discourse, negotiations and interpretations. However, the *duality of technology* theorised that m-banking, after being socially created, was institutionalised and reified in BISP structures, thereby, losing its connection with managers. Hence, this view endorsed how m-banking was socially-embedded in the institutional context of managers, as managements' objectives were entangled within the organisational context of BISP.

However, the transition from cash to mobile-based G2P payments was predominantly influenced by political and institutional forces, coupled with surmounting foreign pressure from international agencies. Other interpretive schemes explicated how social, regulatory and economic rules, norms and resources were drawn on by BISP managers in support of m-banking for disbursing G2P payments. Whilst mobile channels reduced the transaction and administrative costs for both BISP and banks, the business interests of financial actors were significant. Notably, banks created their own agent networks, and funded mobile phone costs, so despite the high upfront costs, they achieved economies of scale through earning float and commission on the large volume of payments disbursed. Hence, it would be critical to highlight that embracing the existing m-banking infrastructure provides better opportunities to government cash programmes to invariably reduce their short-term costs, while extending the outreach of G2P payments to financially marginalised beneficiaries.

Hence, BISP managers' actions were shaped by the stocks of knowledge, resources and norms inherent within the organisation. Although BISP was a flagship programme that represented the governments' strategy for poverty alleviation, the delivery of G2P payments through m-banking did not escalate the achievement of the MDGs. While international donors, the World Bank and DFID in particular, provided technical and financial support for designing and implementing digital payment platforms, their interests mirrored management's primary objectives for achieving transparency in the delivery of G2P payments. However, this objective was disjointed with the financial inclusion agenda that aimed to promote economic activities within BISP communities. In reality, the rationale for designing m-banking was for the institutional strengthening of BISP through improved accountability measures to enhance governance in BISP structures, thereby, reducing corruption in the organisation.

In the case study, the notion of *interpretive flexibility* reflected on how m-banking was appropriated and improvised by BISP managers in their interactions with technology. Thus, m-banking was emergent and owing to the *unintended consequences of technology*, it was replaced by other digital tools- the Benazir Debit Card. Hence, m-banking projects could not be scaled up nationally, chiefly, due to high economic costs and political concerns in connection with security issues in the country. The phase out of mobile technologies in the programme reduced the socio-economic opportunities that ICTs may have provided in future to instigate local economic development in poor communities. Although this is just a cross-section in the continuing story, whether or not the new digital instrument served to advance the financial inclusion agenda has yet to be determined. This warrants future research to assess the effects of new technologies for inclusive innovation in poor communities in Pakistan.

Research Question 2: How does m-banking enable and/or constrain programme managers and women beneficiaries in the programme?

My second research question was framed on the conditioning- *enabling and/or constraining* effects of m-banking on BISP managers and women beneficiaries, as analysed within the Duality of Technology framework. This essentially interpreted how m-banking was assigned different meanings through various practices by users' interactions with technology. Whilst many studies in the past had focussed on technology providers' perspectives, users' accounts had been absent in the literature. Hence, this study addressed this gap and also illuminated users' perspectives on m-banking issues in the context of G2P programmes in developing countries. Moreover, the DoT framework evaluated m-banking adoption and usage through a socio-technical perspective, as opposed to previous research that was centred on technological-deterministic models which favoured pro-innovation and adoption. Also, by reflecting upon the *social-embeddedness* nature of m-banking innovation, as explicated through DoT, the outcomes for the inquiry were shaped by the theorisation that m-banking was intricately situated in the organisational context of BISP managers in which it was designed and used. However, for women users, technology usage was rather deterministic. This was because m-banking, predominantly, conditioned their social practices through certain structural constraints. This further underscored that the use of technology, as enacted by BISP

managers and beneficiaries, had different implications for different users in different organisational settings. Hence, variable social structures were enacted by social agents in their institutional contexts to enable and/or constrain their social and financial practices in the case study.

In this study, the Duality of Technology framework identified the relationship between m-banking innovation and its effects on BISP programme managers and beneficiaries. As m-banking was *socially-embedded* in the organisational context of BISP, it was *progressively transformative* (Avgerou, 2010) for BISP managers in *enabling* them to achieve transparency, visibility and efficiency in the delivery of large volume of G2P payments over securer channels. Thus, by facilitating the real-time reconciliation of payments for rapid complaint redress, m-banking streamlined the payment delivery process in the G2P ecosystem. More concisely, m-banking created new structural arrangements in the organisation through the replacement of human intermediaries with other middlemen, or banking agents, who were the fundamental actors in the branchless banking infrastructure in the study.

From women beneficiaries' perspectives, on one hand, m-banking imposed socio-technological and human constraints that conditioned their practices. However, on the other hand, the fact that m-banking enabled women to receive full payments, bundled with security, convenience and flexibility remains undisputed. Nonetheless, owing to the bank-led model, agents' footprints were thin in the research localities that resulted in high socio-economic costs for beneficiaries cashing-out their mobile payments. However, these costs, arguably, were still lower than travelling to the nearest bank branch. Moreover, the synthesis of new social networks facilitated beneficiaries to overcome the high travel costs associated with receipt of grants. Agent trust cemented the user-agent relationship amidst certain *unintended consequences of technology* which were reflective of fraudulent practices by few dishonest agents. Other technological and infrastructural constraints affected m-banking usage, but human constraints were critical in restricting beneficiaries' interactions with technology. Consequently, owing to low digital and financial literacy levels, beneficiaries were handicapped to use m-banking that had implications on financial inclusion.

Moreover, the *interpretive flexibility* of technology, as defined by Orlikowski (1992), gave rise to *technology-in-practice* (Orlikowski, 2000), as technology's use was

modified and improvised by beneficiaries. Predominantly, mobile phones were used for voice communications that created social capital and cohesion in household structures. Furthermore, financial practices were shaped around technology, so for some beneficiaries, m-banking channels paved ways for innovative business' that were constructed around technology. This further reinforced the theorisation that technology reproduced new structures of signification, authority and legitimation as new processes and structures emerged. To a limited degree, m-banking indirectly spurred economic, social, political and psychological opportunities for local social actors (Heeks, 2008; 2009).

To conclude, whilst m-banking enabled BISP beneficiaries to modify and manipulate their engagements with technology, the constraining effects were dependent on a multitude of factors that undermined the embedded rules and resources in the social context of beneficiaries. In such a scenario, the negotiated use of m-banking varied from the prescribed rules set by BISP managers in their institutional context. Further, there is a need to overcome technological determinism by expanding the use of digital technologies in order to reduce the digital and financial divide in communities (Qureshi, 2014b).

Research Question 3: How does m-banking affect the institutional properties of households for structural change, or financial inclusion in G2P households in Pakistan?

The conceptual outcomes from the final research question expounded the effects of m-banking on the institutional properties of households in this study. As Donner and Tellez (2008) articulated that m-banking innovation should be studied as a holistic process that links adoption and usage with impact, the structuration framework was used to underpin these relationships. Hence, as a cyclical model, DoT combined m-banking innovation with the developmental outcomes to shed light on the socio-economic effects of technology on BISP households for financial inclusion. This relationship was critically evaluated within the theoretical framework to conclude that the use of ICTs for development was deterministic for users, unless combined with the Capabilities Approach. Hence, I extended the framework centred on a vision for capabilities

development that was crucial to enable households to graduate to higher levels of financial inclusion in the study.

Moreover, the study showcased that m-banking led to the social inclusion of households that was *transformative* through socio-political change and the empowerment of women. This emphasised the significance of mobile technologies as tools to bridge the social divide in remote rural communities. Quite significantly, m-banking embedded new social norms and rules that reproduced new structures for enhancing the well-being freedoms of beneficiaries. As technology was enacted by beneficiaries, new social practices emerged that legitimised new structures of power, so m-banking afforded control, decision-making and authority to beneficiaries. Furthermore, beneficiaries' possession of identity cards and bank accounts integrated them into economic structures that augmented their financial learning curves. However, m-banking also caused friction in few traditional households.

Moreover, the argument presented by Bold, Porteous and Rotman (2012) that social cash programmes function as a stepping stone in the move from cash to digital, and onto fully inclusive financial services, may be contested at this stage of the study. Any early expectations regarding the rapid and automatic uptake of financial services amongst beneficiaries, needs to be realistically recalibrated under the current G2P climate. It was evident that technology design, in relation to the bank-led model and limited purpose accounts restricted beneficiaries' access to, and usage of financial services. Other human constraint factors related to low levels of digital and financial literacy, delimited household's progression to higher levels of financial inclusion. Hence, m-banking was futile to transform the economic dynamics of households for poverty elimination. As m-banking aligned and reinforced existing structures in households, it reduced income poverty rather than human poverty. I therefore conclude that m-banking was deterministic for beneficiaries, as it failed to enhance women's human and financial capabilities for micro-entrepreneurial development. This was mandatory in order for BISP households to climb the financial inclusion ladder for poverty graduation in Pakistan.

Indeed this calls for a paradigm shift- away from the narrow focus of socio-economic approaches of development towards a more inclusive human development approach.

Hence, by combining the Capabilities Approach (Sen, 1999; 2000; Zheng, 2009; Spence, 2010; Spence and Smith, 2010) with the Duality of Technology framework in the study, the theoretical framework is extended to provide greater insights on capabilities development for beneficiaries. I argue how m-banking may be redesigned to embed resources in technology in order to expand beneficiaries' capabilities to promote financial inclusion in poor households. As the literature denoted, ICTs, or m-banking should not be perceived as an end, but rather as a valuable channel in enabling households to graduate from poverty.

The alternative framework, therefore, envisioned that m-banking provided a means to achieve *functionings* or financial inclusion- via capabilities development (Zheng, 2009; Good and Qureshi, 2009; Andrade and Urquhart, 2010). Hence, the new theoretical lens afforded an exit route for poverty through capacity building which on a more optimistic note might trigger the capital-asset effect for micro-entrepreneurial development. Therefore, the significance of redesigning m-banking to match beneficiaries' capabilities, and provide resources for enhancing human and financial capabilities in households for structural transformation cannot be dismissed. However, scholars argue that there is not substantial evidence displaying that investments in ICTs boost economic growth and increase the standard of living in most countries, since mobile phone usage is embedded in extant social relations of cooperation and conflict, so technological diffusion may not necessarily lead to development (Thompson, 2008; Zheng, 2009).

7.2 Contributions to Knowledge

This section highlights the scholarship achieved as the conceptual outcomes have sealed the research gaps, and shed light on the contributions of the study. As my study is grounded in the Information Communications Technologies for Development literature, the contributions I make lie in the heart of the thesis and extend the domain of theory, methodology and practice to inform the Information Systems, Organisational Studies and Development disciplines.

7.2.1 Theoretical Contributions

First, the theoretical contribution offered new insights through the use of Orlikowski's Duality of Technology (1992) that offered a structuration lens to study m-banking innovation, usage and structural effects on household structures. Whilst the extant m-banking literature was technologically deterministic, the application of DoT in the study prescribed to a socio-technical view, as explicated through the social construction of technology in the case study. The *duality of technology*, a central tenet of DoT, reinforced the notion that m-banking after construction became part of the structural properties of BISP, and hence, was socially-embedded in the institutional context of BISP managers. In the light of this theory, I analysed how various norms, rules and resources were embedded into the design of m-banking that affected G2P practices through the *enabling and/or constraining* effects for social actors. Hence, DoT interpreted the findings through both technology designers' and users' perspectives in extending the m-banking literature that was previously restricted to m-banking providers' perceptions. However, the final relationship within DoT illuminated how socio-technical and human constraints, as structural properties of m-banking, limited socio-economic transformation, or financial inclusion in BISP households.

Second, the theoretical contribution combined the research framework of Orlikowski's Duality of technology with Sen's Capabilities Approach (1999) to offer new analytical insights on m-banking innovation interpreted through a development perspective. Sen's vision of '*Development as Freedom'* (1999) was noteworthy in the contemporary literature in envisioning capabilities development as an intermediary pathway for human development. This vision of development, as synthesised in the Capabilities Approach, was meaningful to address the deterministic nature of technology that was apparent in the framework. Hence, the application of DoT offered critique on the wider ICT4D literature in suggesting that the use of mobile technologies for development was restricted to a socio-economic vision of development. In contrary, those approaches that embedded the capabilities vision for development in technology, enhances users' capabilities for structural transformation of households. Thus, the integrated framework afforded a more robust analysis in examining how the appropriation of technology, owing to *interpretive flexibility*, may expand user's capabilities for advancing financial

inclusion in impoverished households. Hence, as the objective of technology-based interventions shifted from the socio-economic to human development approaches, the Capabilities vision was introduced in theorisation of the ICT4D literature in order to realise the specific desired outcomes for financial inclusion.

Hence, by showing the relevance of Sen's Approach in the m-banking for development literature, the theoretical contributions justified that m-banking projects, inspired by the meaning of development (Prakash, 2007), may afford alternative pathways for micro-entrepreneurial growth in poor communities. Whilst the new propositions in the analytical framework concurred more with the realisation of the United Nations Millennium Developmental Goals that amalgamated a multiplicity of dimensions in evaluating human poverty in Pakistan (United Nations Human Development Report, 2013), this particular angle contributed towards a new theoretical understanding to inform the development literature as well. Figure 7.1 is an extension of Figure 1.2 (see Chapter 1) and illustrates the theoretical contribution in the study through the extension of the original DoT framework.

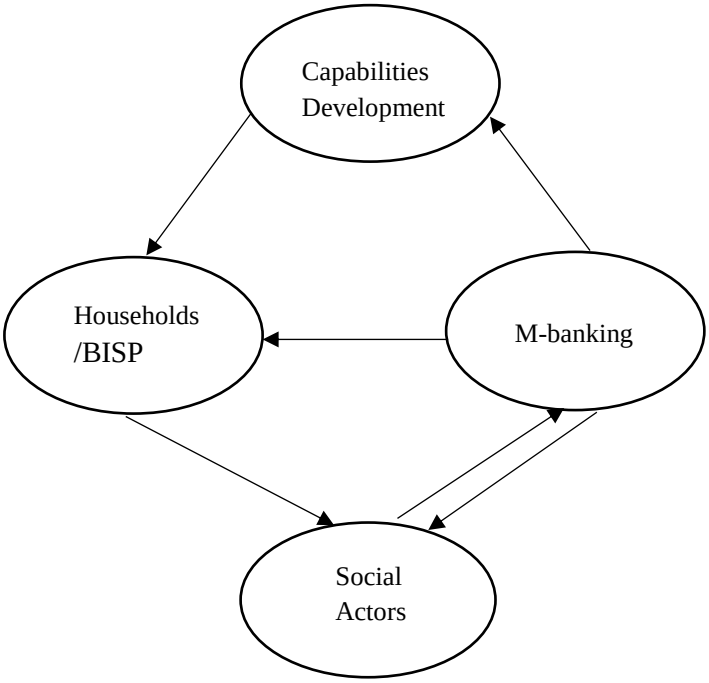

Figure 7.1: The Theoretical Contribution- Duality of Technology Extended through the Capabilities Approach

Hence, the academic contribution makes analytic generalisation that involves making projections about the likely transferability of findings based on the theoretical analysis of DoT that produced the outcomes and the effect of context. In accordance with Yin (2010) who describes the process of analytic generalisation as a two-step process: first, the case study findings showed how the application of DoT determined that the use of mobile technologies was deterministic for women users in contrast to BISP managers in this study. Second, the case study findings challenged the general ICT for development discourse in contributing that the design of m-banking was influential to reduce income poverty but transformative for social inclusion. However, it overlooked the capabilities of women users to reduce human poverty while designing m-banking that restricted financial inclusion for poverty graduation. Thus, the redesign of technology is emphasised in order to address the limitations of the structuration view of technology. So beyond making these claims, the generalisability of the findings from this single case increases immeasurably as similar results have been found with other studies in the literature (Yin, 2010) as discussed in Chapter 6. In future research, the findings from this case hence, may be transferrable to other G2P cases with similar contexts. In addition, the findings through the application of structuration theory illuminated how technology induced change in organisations, so created new knowledge for other interdisciplinary areas including, Information Systems, Organisation Studies and Development Studies.

7.2.2 Practical Contributions

The practical contributions arising from my study underpinned the role of m-banking in the government sector for disbursing G2P payments to poor households in Pakistan. First, prior research in this sector was scarce as the extant literature on m-banking was primarily delimited to person-to-person (P2P) payments in analysing domestic or international remittance patterns, or person-to-business (P2B) payments. Hence, my research examined m-banking in the context of the government social cash programmes, and provided new insights, at the policy and institutional levels, for many governments and private organisations working in developing countries similar to Pakistan.

Second, most research conducted in the G2P sector, from middle or low income countries, focussed on digital instruments other than mobile technologies used in government social programmes. Since m-banking was not a popular technology-based intervention for disbursing/receiving G2P payments in many social cash programmes, by evaluating this specific digital tool, I have contributed to the practical literature. Hence, I infer that this study to my knowledge was the first of its kind not only from Pakistan, but also from other developing countries in offering new developmental insights for practitioners, policy makers and governments to help bridge the gaps between theory and practice.

Third, the research was significant for a variety of stakeholders as it illuminated how m-banking projects might be implemented in the G2P sector to advance the financial inclusion objectives, in line with poverty alleviation objectives within financially marginalised households in Pakistan. I presented how m-banking might bundle financial and social inclusion objectives into a unified policy to help future policy makers in formulating a long term strategy for inclusive development in financially marginalised and poverty-stricken households.

Fourth, the study also contributed to practitioner's literature by conceptualising the entire m-banking process, from innovation to structural implications, through assimilating m-banking innovation with the developmental outcomes. Moreover, it established the relationship between social actors interacting with m-banking, essentially, where users were constrained by their individual capabilities. As this drew our attention to the technology-user design gaps, it contributed towards practitioner's knowledge, where in future, before designing and implementing relevant m-banking projects in the G2P sector, practitioners might take into consideration the capability levels of beneficiaries. Hence, by redesigning m-banking that might enhance beneficiaries' human and financial capabilities, the study further established how micro-entrepreneurial development led to financial inclusion in poverty-stricken G2P households. Whilst it suggested a more user-oriented, or bottom-up approach towards inclusive development, it also offered invaluable insights through integrating theory and practice (Qureshi, 2005) which informed practitioner's knowledge in designing effective m-banking projects for capacity building in G2P communities.

7.2.3 Methodological Contributions

The methodological contributions in my study accentuated the uniqueness of the socio-cultural, political, regulatory, economic and institutional contexts that were ascribed with the interpretive nature of the m-banking inquiry in this specific case study. The interpretive paradigm was influential in highlighting the contextual factors that were ingrained in the research design to explore the case of m-banking in the BISP programme. The qualitative approach signified how m-banking innovation was interpreted by different social actors in their precise organisational and social contexts within their natural settings. So by probing deeper into the complex and messy issues pertaining to m-banking practices, the inductive approach helped us gain rich insights through interpreting the perceptions, attitudes, beliefs and emotions sensitive to BISP participants in the case study. Furthermore, the qualitative study captured the perspectives from multiple actors and data sources that helped achieve validity, reliability, credibility and trustworthiness in the research outcomes. This extends the methodological literature, as the findings from this case study are not meant to be generalised, or applied uniformly across all contexts, but may be transferred to similar socio-cultural contexts across developing countries. Indeed, the inductive approach, through the empirical findings, also contributed to the extension of the research framework in contribution to the theoretical strand of ICT4D literature.

In addition, the case study of the Benazir Income Support Programme was used as a strategy in the planning and designing of the research inquiry for the outset of data collection. BISP was unique in the sense that it explicitly targeted women as G2P recipients. So whilst earlier studies were criticised for marginalising women, as m-banking users, in my study, these concerns were addressed that informed the methodological strand of the m-banking literature. Moreover, through the case study, I analysed both programme managers' and beneficiaries' perspectives which constituted the primary units of data collection in the study. Further, the selection of BISP to study m-banking innovation in the G2P sector, contributed to the methodological literature, as the case had international standing for a global audience, so thereby, invited interests from international actors in other countries with similar G2P programmes.

7.3 Research Implications and Recommendations

My research communicates value through the dissemination of research findings to a diverse range of stakeholders, who in future may be involved in financially inclusive G2P frameworks in countries with similar contextual environments. The practical implications and recommendations may help organisations at the policy and institutional levels in developing countries.

7.3.1 Governments and International Donor Agencies

Management of political interests: My research has practical implications for local and foreign governments and policy makers in the design and implementation of mobile payment platforms for disbursing G2P payments. In most cases, there is some degree of foreign pressure on governments, as evident from this case study, so governments must ensure that they implement indigenous digital projects which knit well into local socio-cultural, regulatory and economic frameworks. This is critical over importing foreign ICT models that may be deterministic, so hence, may not fit into local practices for serving the local developmental agenda. In addition, as authors have stated, adopting foreign models provides a means for international agencies to reinforce their political dominance and authority in developing economies (Wade, 2002; Avgerou, Ciborra and Land, 2004; Thompson, 2008; Avgerou, 2010). Hence, governments involved in ICT innovation projects, cautiously need to manage their political interests with international private and public funding bodies in order to safeguard their local interests. This may be possible if governments put their local interests, paramount over foreign interests, to ensure that m-banking projects in the government sector address their citizen's needs for the socio-economic development of communities. For this, governments may recruit a special team of advisors, with representatives from industries, offering advice on the sustainability of projects at grass roots levels in order to avoid technological determinism.

Exchange of information and experience: International donor organisations, for instance, the World Bank and DFID, as advisors and funders, are observed to have notable presence during the innovation of digital projects within G2P programmes in developing countries. This allows local governments to draw upon foreign agencies' rich cross-country experiences to share information, if only relevant, during the planning and implementation phases of digital projects. By advising and offering institutional support to other countries, based on their local experiences, lessons from this case study in Pakistan may prove to be valuable for other social cash programmes across the developing world. Hence, international agencies may play a critical role in training and supporting local governments in executing indigenous m-banking projects within their local frameworks in order to synchronise the financial inclusion-poverty alleviation nexus for G2P recipients. Thus, by exposing other countries to Pakistan's unique experience, the foreign donor community may provide functional support to other governments for instituting m-banking projects.

Leveraging on the existing m-banking infrastructure: The focus on mobile payment platforms for the disbursement of G2P payments warrants attention from governments to devise payment models that increase the outreach of G2P payments to a wider population of beneficiaries. Hence, it may be more logical for governments to leverage on the existing commercial m-banking infrastructure, rather than collaborating with banks which create their own agent networks for supporting G2P payments in social cash programmes. Whilst the mobile operator-led model not only permits governments to increase their coverage of beneficiaries residing in remote underserved regions, they may also reduce their short-term delivery costs through m-banking channels.

Provision of technical and financial training: If financial inclusion was made the primary objective of governments introducing digital projects in social cash programmes, managers need to make technical and financial training mandatory for beneficiaries. This may help to enhance the digital skills of beneficiaries, as a first step, in the financial inclusion drive. In order to execute such proposals, the staff at field offices may organise informal literacy programmes to create digital and financial awareness amongst beneficiaries before implementing ambitious m-banking projects across the country. In this context, it may be effective for programme managers to launch social mobilisation

campaigns at grass root levels to increase awareness levels and promote the usage of mobile technologies in G2P communities.

Redesign of m-banking models for poverty graduation: Government social cash managers need to design m-banking models for disbursing G2P payments with the aims to expand the human and financial capabilities of beneficiaries. To this effect, enrolment of beneficiaries in vocational training programmes, may perhaps be made compulsory for every beneficiary registered with the programme. In addition, the m-banking design be modified in order to offer financial services on mobile accounts. This may not only evoke the micro-entrepreneurial spirit in beneficiaries, but may also underpin the programmes long term objectives of poverty graduation. For this purpose, G2P managers may need to revaluate their institutional goals within the financial inclusion- poverty graduation nexus.

Collaboration with public/private entities: As presented in the study, it may be essential for G2P programme managers to collaborate with other public/ private institutions which may assist in funding mobile phones for the smooth roll-out of m-banking projects nationwide. In addition, other institutions may also liaison with G2P programmes to provide institutional support in organising trainings, or social awareness campaigns for G2P beneficiaries enrolled in the programme. In such settings, as shown in the case study, the increased usage of mobile technologies may not only elevate the financial and digital indicators in low income countries, but may also benefit the m-banking industry in expanding their client base and increasing their revenue streams.

Stronger field presence: Government social cash programmes, similar to BISP, may develop a stronger field presence at community levels for facilitating beneficiaries in their interactions with new technologies. Ideally, more extensive regional branches with greater staffing may offer greater support and assistance to beneficiaries and other staff located in the main offices. Hence, field officers may facilitate in areas pertaining to-monitoring service compliances, providing training, customer service inquiries, and assisting management in the information flows for evaluating the programme.

7.3.2 Regulators and Banks

Greater regulatory support: In order to accelerate the financial inclusion drive, regulators may need to be more proactive to encourage inclusive growth in the G2P sector in developing countries. For this, it is important that branchless banking guidelines are made more acquiescent for mobile operators in encouraging flexible m-banking models in their partnerships with banks. This measure may also significantly enhance government's collaboration with established m-banking models for increasing the outreach of G2P payments to cover a wider population of beneficiaries. Moreover, regulators in Pakistan- the State Bank of Pakistan and Pakistan Telecommunications Authority may need to relax some account requirements in order to facilitate the usage of mobile accounts by beneficiaries enrolled in the programme.

Extending agent outreach: As highlighted in the study, it may be more rational for banks to embrace partnership-led models with mobile operators, so that they may increase financial access for G2P beneficiaries in providing more pay-points in remoter communities. As a result, banks may offer greater ease, flexibility and convenience for beneficiaries cashing-out their G2P payments in more financially underserved regions. Consequently, this may further help banks to reduce their short-term costs, since they may not invest in heavy sums of cash for setting up exclusive agent channels for G2P beneficiaries.

Access to mainstream financially inclusive bank accounts: The conversion of beneficiaries' limited purpose accounts into mainstream financial accounts may offer greater economic benefits to banks whilst underpinning the financial inclusive drive in G2P communities. Currently, their business case was reliant on government service fees and float earned on the amount that was credited into their accounts. Whilst government fees may generate a regular and predictable stream of revenues for banks, this amount needs to be high in order to surpass mobile phone costs. Since economies of scale may be achieved through the sheer volume of payments made to beneficiaries, ideally, by cross-selling other financial services may make the business case more robust for banks. Hence, the provision of financially inclusive accounts to G2P beneficiaries by banks may

bundle the financial inclusion objectives with poverty alleviation for G2P programmes whilst serving their own business interests.

7.3.3 Mobile Operators

User friendly technology: Mobile operators may engage more closely with G2P programme managers to craft services that may be more user friendly to match the capabilities of less educated users. This particularly may be relevant in developing countries where a vast majority of G2P recipients lack basic literacy levels, so may not be confident in using technology. In addition, the application of a bottom-up design approach in constructing new technologies that are more user friendly, may not only help to diminish the digital gap, but may also host an array of mobile services to foster pro-poor growth in local communities (Heeks, 2009; 2010). Hence, in order to encourage the adoption and usage of mobile services by beneficiaries, mobile operators may need to understand their specific requirements and habit patterns in order to boost economic growth in poor communities. Further, this may strengthen the business case for mobile operators, as they may capture additional revenue through creating an increased demand for mobile services, specifically, for G2P recipients. In the long term, the use of ICTs in development projects may have significant implications for reducing the digital divide in developing countries like Pakistan.

7.3.4 Micro-finance Providers

Provision of m-credit: Further, micro-finance providers may learn lessons from governments in supporting the income generating activities of poor G2P communities that may align with the national interests of promoting financial inclusion. The 'trickle down' effect from m-banking channels may enable the microfinance sector to 'ride on' the existing m-banking infrastructure that was initially set up for the G2P sector. In this context, the extension of micro-credit- via m-banking to poor populations may facilitate low income G2P households to purchase assets, in pursuit of their micro-entrepreneurial needs, which may evoke economic activities in local communities. To this effect, the m-banking infrastructure utilised by governments for disbursing G2P payments may be

exploited by microfinance institutions for assisting poor G2P households in building financial capabilities. This may trigger micro-entrepreneurial activities for escalating economic growth leading to financial inclusion and poverty alleviation in poor G2P households in developing countries.

7.3.5 Non-Government Organisations

Colloboration with BISP: This study may grasp the attention of non-government organisations (NGOs), especially those which co-jointly work with government social cash programmes. Foreign, or local NGOs, may actively engage with G2P programmes in providing training to beneficiaries to enhance their skills. For instance, NGOs may help social cash programmes to design effective financial literacy campaigns, specifically in those programmes which are relatively new in the G2P sector. Other private sector organisations may also assist in providing vocational training to enhance the capabilities of beneficiaries which may increase their future employment opportunities in domestic wage markets. In relation to this, the role of institutions, such as the Pakistan Poverty Alleviation Fund (PPAF) and National Commission for Human Development (NCHD) may be prominent in improving public sector delivery in G2P programmes in Pakistan. Indeed, such insititutions may also gain valuable insights from this study in devising future strategies to promote the human devlopment vision in G2P programmes.

7.4 Limitations of the Study

As the nature of research inquiry was qualitative, the novelty in drawing on a unique case located in the context of Pakistan may be regarded as a methodological strength on its own. This makes the contributions to knowledge original, in the sense, as the conceptual outcomes were innovative and distinct from the environmental and institutional contexts in other countries. However, given the research questions which were challenging, this study on m-banking in the G2P sector in Pakistan presented an ambitious agenda, albeit one which was relevant and significant in the current research environment.

Nonetheless, within the constraints of any study, such as this, it is necessary to contain the research domain pragmatically. In this sense, it may be important to highlight that the limitations of this study pertained to the research design, regarding the selection of the research sites for the case study. As the central focus was restricted to two sites, Islamabad and Rawalpindi in Pakistan, this to some extent, may have limited the ability to provide meticulous generalisations of the findings, although, I may be able to provide analytical generalisation. This applies to this case where concepts were developed and implications were drawn (Walsham, 1995) for interpreting m-banking innovation, usage and implications, specifically, for the Benazir Income Support programme, and more generally, for other G2P programmes with similar contextual environments. So whilst the research understanding may be generalised across to similar environments (Walsham, 1993; 1995), it is important to take note of the specific particularities of the new context when the understanding from this study are extended to that context.

As indicated in Chapter 4 on Methodology, the aim of this study was to provide a way of 'making sense' of the m-banking innovation process in G2P programmes, rather than measuring testable propositions. Therefore, the aim that was set out to achieve provided a rich and deeper understanding of the m-banking concepts, in lieu of making generalisable conclusions. Based on this logic, the decision to immerse myself in the field to gain deep insights in light of the research questions, demanded an interpretive understanding of complex m-banking issues. So whilst an interpretive philosophy has done justice in this research, some of the limitations have been highlighted in Chapter 4.

Another methodological limitation may concern the cross sectional design of the research study regarding data collection from participants. Whilst the research provides deep insights on core m-banking issues, further inquiry across time may help understand how practices evolve over time as interpretations tend to change. However, given the time and resource constraints that a PhD study normally entails, it was unviable to conduct longitudinal research at this point in time.

7.5 Areas of Further Research

The study offers potential for conducting research on other lucrative topics within the same case study to further contribute to the ICT4D literature.

7.5.1 Evaluation of Debit Cards for Financial Inclusion

My study concluded that m-banking was being replaced by debit cards in the Benazir Income Support Programme (BISP). This may become the starting point to undertake further research. Using the same analytical framework of Duality of Technology, it may be useful to replicate the study with new digital technologies, or debit cards. Hence, by relocating the same research questions into Orlikowski's framework, the study may offer new insights on the social construction, usage and effects of debit cards on the institutional dynamics of BISP households in Pakistan. Being cyclical, as a process theory, the DoT framework allows us to analyse similar concepts but reframing the type and use of technology.

Since little, if any, research in the past has analysed the scaling of digital interventions in the G2P sector, future research may precisely look at how debit cards were phased in the BISP programme across the country. This is vital to explore as most ICT innovations relate to structures and processes that constitute the broadest part of the ICT ensemble, whilst ignoring issues of scalability. Hence, such studies are known to be techno-centric in their approach and have been criticised for being misguided (Foster and Heeks, 2013b).

7.5.2 Impact of Digital Payments on the Millennium Development Goals

Another area of research interest concerns the evaluation of digital tools in assisting BISP achieve the Millennium Development Goal (MDG) targets. Although BISP was the country's major anti-poverty programme that aligned with the United Nations development strategy of achieving the MDG targets, future research may critically assess the findings against the MDG indicators through a developmental lens. A multi-disciplinary approach that envisions human development may analyse the impact of digital payments on the dimensions of health, education, employment and empowerment

against the targets set in the United Nations Human Development Report (2013) for Pakistan.

However, realistically, undertaking such a study is not just a matter of objectively measuring the targets, but also recognising the social and cultural dimensions of development as a marker of progress. Hence, it may be more challenging to interrogate the goal-oriented vision of MDGs and understanding its complexities through a positivist study. The quantifiable nature of these goals adopted by countries, including Pakistan, for assessing ICTs contribution to development within the MDG framework may become questionable. This is because some scholars have criticised the MDGs for being hegemonic (one size fits all), so being imposed by the north denies developing countries the very paths to development that were followed by industrialised countries (Heeks, 2005). Other researchers also expressed their concerns not to jump onto the MDG bandwagon, as it is the 'juggernaut of all bandwagons' (Saith, 2006).

7.5.3 Foucault's Power Theory

Further, research on the BISP case study may analyse complex power relationships within the m-banking innovation processes. As depicted in the case study, m-banking innovation was brushed with political motives, therefore, some scholars labelled technology as 'political technology' in establishing new 'regimes of truth' (Avgerou and McGrath, 1987). Hence, scholars may study the different regimes of truth associated with power dynamics that shaped m-banking practices in organisations. Foucault's theory of power (Foucault, 1980; 1982) for instance, may interpret power relationships and not power *per sey*, between the interactions of social actors with technological practices. In this context, Foucault describes power as a ubiquitous strategic force, since scholars theorise that there is no escaping from the effects of power (Dahlager, 2010; Jimenez-Anca, 2013). Also, Foucault focussed on the *relational* nature of power that made his view very different from the *rational* IS perspective on power. Moreover, by asserting that 'power is everywhere', Foucault (1980; 1982) conceived power as a network of devices, techniques, social and cultural practices rather than as an entity or structure. This examination may be novel in shedding light on digital innovation through a power lens in the BISP case study.

7.6 Summary

The findings informed the Duality of Technology framework and divulged that m-banking for disbursing G2P payments in the Benazir Income Support Programme was socially constructed under the influence of various interpretive schemes. Since m-banking was *socially-embedded* in the BISP context, it was *transformative* for BISP managers, and enabled them to achieve transparency, visibility and security in efficiently delivering G2P payments to large populations of financially underserved poor women. Hence, the primary objective for transiting to m-banking was for the institutional strengthening of BISP over the financial inclusion agenda. However, owing to *interpretive flexibility,* technology was appropriated by BISP managers, so m-banking was gradually being replaced with other financially inclusive tools- the Benazir Debit Card in the study.

Moreover, m-banking conditioned beneficiaries' practices and enabled them to receive the full amount of payments, whilst offering flexibility, convenience and security in cashing-out their payments. However, m-banking embedded socio-technical and human constraints that restricted beneficiaries' practices. These constraining effects of technology affected the institutional properties of BISP households. As m-banking reinforced existing socio-economic practices and structures, it reduced income poverty. However, structural constraints embedded in technology restricted women beneficiaries' access to, and usage of financial services that limited financial inclusion in households. Furthermore, social inclusion was *progressively transformative* which was evident through the empowerment of women that resulted in socio-political change in G2P communities.

Hence, the Duality of Technology framework helped us critically evaluate the Information Technologies for Development (ICT4D) discourse. I conclude that m-banking was deterministic for women beneficiaries', unless combined with the Capabilities vision. Thus, as contribution to the study, I integrate the Capabilities Approach with the DoT framework that sheds light on how m-banking may be redesigned to embed women beneficiaries' capabilities in order to enhance their capabilities and skills, in addition to, providing access to and usage of financial resources

for steering micro-entrepreneurial activities. This may lead to a paradigm shift for poverty graduation in BISP households. Also, financial and digital training should be imparted to women beneficiaries to advance the inclusion agenda in G2P communities in Pakistan.

In this context, Andersson, Gronlund and Wicander (2012) accentuated the significance of the Capabilities vision for the progression of the Information Communication Technologies for Development (ICT4D) research that aligns with *Sen's Development as Freedom (1999)*. In essence, the findings from the case study are grounded within a piece of work in the ICT4D literature and makes analytical generalisations in informing this stream of literature. However, the findings also transcend the domain, demarcated by this field of research, as the considerations feed into the Information Systems and Development domains. This is validated through the integration of Sen's vision of human development with structuration theory that offers cross-fertilisation between the two domains of knowledge and strengthens our visions for both these areas of research. Hence, the contributions and practical implications from my study present that both ICT4D and Organisational Studies literature can share insights from each other in evaluating m-banking innovation- focussing on the technical, organisational, social and economic issues that are paramount for financial inclusion. As the study encounters questions on policy, theory and practice, the research sheds light on innovative inclusive practices that promote financial inclusion for poverty graduation in G2P communities in developing countries.

References

Aduda, J. and Kalunda, E., 2012. Financial Inclusion and Financial Sector Stability with Reference to Kenya: A Review of Literature. *Journal of Applied Finance and Banking*, 2 (6), pp. 95-120.

Africa Research Bulletin. 2013. Mobile Money: Kenya M-Shwari Success. *Economic, Financial and Technical Series*, [online] 50 (4), pp.19952A-19953B.

Aguero, J. M., Carter, M.R. and Woolard, I., 2007. *The Impact of Unconditional Cash Transfers on Nutrition:* The South African Child Support Grant. International Policy Centre for Inclusive Growth. Washington, D.C.: Centre for Global Development.

Aker, J., 2008. *Does Digital Divide or Provide? The Impact of Cell Phones on Grain Markets in Niger*. Center for Global Development Working Paper, [online] (154) Available at: http://www.csae.ox.ac.uk/conferences/2008-edia/papers/047-aker.pdf

Aker, J. and Mbiti, I., 2010. Mobile Phones and Economic Development in Africa. *Journal of Economic Perspectives*, 24 (3), pp. 207-232.

Aker, J.C., Boumnijel, R., McClelland, A. and Tierney, N., 2011. *Zap It to Me: The Short-Term Impacts of a Mobile Cash Transfer Program*. Working Paper 268. Washington, D.C.: Centre for Global Development.

Akpan, P. I., 2003. Basic Needs to Globalization: Are ICTs the Missing Link? *Information Technology for Development*, 10 (4), pp. 261-274.

Alampay, E. and Bala, G., 2010. Mobile 2.0: M-Money for the BoP in the Philippines. *Information Technologies and International Development*, 6 (4), pp. 77-92.

Almazan, M., 2013. *G2P Payments and Mobile Money: Opportunity or Red Herring?* GSMA [blog]. Available at: http://www.gsma.com/mobilefordevelopment/g2p-payments-mobile-money-opportunity-or-red-herring

Andersson, A., Grönlund, Å. and Wicander, G., 2012. Development as Freedom–How the Capability Approach can be used in ICT4D Research and Practice. *Information Technology for Development*, *18* (1), pp. 14.

Andrade, A, D. and Urquhart, C., 2010. The Affordances of Actor Network Theory in ICT for Development Research. *Information Technology and People,* 23 (4), pp.352-374.

Angen, M.J., 2000. Evaluating Interpretive Inquiry: Reviewing the Validity Debate and Opening the Dialogue. *Qualitative Health Research,* 10 (3), pp.378-395.

Anong, S.T. and Kunovskaya, I., 2013. M-Finance and Consumer Redress for the Unbanked in South Africa. *International Journal of Consumer Studies,* ISSN 1470-6423, pp.1-13.

Anwar, Y., 2013. Mobile Banking in Pakistan. *Proceedings of Sixth International Conference on 'Mobile Banking in Pakistan'* [pdf] Karachi, Pakistan, March 2013. http://www.bis.org/review/r130320d.pdf

Arnold, C., Conway, T. and Greenslade, M., 2011. *DFID Cash Transfers Literature Review.* Evidence Paper [pdf] Policy Division. London: Department for International Development (DFID). Available at: http://webarchive.nationalarchives.gov.uk/+/http:/www.dfid.gov.uk/Documents/publications1/cash-transfers-evidence-paper.pdf

Avgerou, C., 1998. How Can IT Enable Economic Growth in Developing Countries? *Information Technology for Development,* 8 (1) pp. 15-28.

Avgerou, C., 2000. IT and Organizational Change: An Institutionalism Perspective. *Information Technology and People,* 13 (4), pp. 234-262.

Avgerou, C., 2001. The Significance of Context in Information Systems and Organizational Change. *Information Systems Journal,* 11 (1), pp. 43-63.

Avgerou, C., 2002. The Institutional Nature of ICT and Organizational Change. In: C. Avgerou, ed. 2002. *Information Systems and Global Diversity*. Oxford: Oxford University Press. Chapter: 1, pp.1-38.

Avgerou, C., 2003. The Link between ICT and Economic Growth in the Discourse of Development. In: M. Korpela, R. Montealegro, and A. Poulymenakou, eds., *Organizational Information Systems in the Context of Globalization,* Dordrecht, Netherlands: Kluwer, pp. 373–386.

Avgerou, C., 2008. Information Systems in Developing Countries: A Critical Research Review. *Journal of Information Technology,* 23 (3), pp.133-146.

Avgerou, C., 2010. Discourses on ICT and Development. *Information Technologies and International Development,* 6 (3), pp. 1-18.

Avgerou, C., Ciborra, C. and Land, F., 2004. The Social Study of Information and Communication Technology. In: C. Avgerou, C. Ciborra and F. Land, eds. *Innovation, Actors and Contexts*. Oxford: Oxford University Press.

Avgerou, C., and Madon, S., 2004. Framing IS Studies: Understanding the Social Context of IS Innovation. In: C. Avgerou, C. Ciborra, C. and F. Land, eds. *The Social Study of Information and Communication Technology*. Oxford: Oxford University Press.

Avgerou, C. and McGrath, K., 2007. Power, Rationality and the Art of Living through Socio-Technical Change. *MIS Quarterly,* 31 (2), pp.295-315.

Avgerou, C. and Walsham, G. ed., 2000. *Information Technology in Context: Studies from the Perspective of Developing Countries*. London: Ashgate.

Bada, A.O. and Madon, S., 2006. Enhancing Human Resource Development through Information and Communications Technology. *Information Technology for Development,* 12 (3) pp.179-183.

Bankable Frontier Associates. 2009. *Promoting Financial Inclusion through Social Transfer Schemes*. [pdf] Report commissioned by the UK's Department for International Development (DFID): Boston, *MA.* Available at:

http://bankablefrontier.com/assets/pdfs/BFA-G2P-DFID-WkshpPaper-FinalPDF-M-Nov08.pdf

Barca, V., Hurrell, A., MacAuslan, I., Visram, A. and Willis, J., 2010. *Paying Attention to Detail: How to Transfer Cash in Cash Transfers.* Working Paper 2010/04. Oxford, *UK:* Oxford Policy Management.

Barley, S., 1986. Technology as an Occasion for Structuring: Evidence from Observation of CT Scanners and the Social Order of Radiology Departments. *Administrative Science Quarterly,* (31), pp.78-108.

Barley, S., 1990. The Alignment of Technology and Structure through Roles and Networks. *Administrative Science Quarterly,* (35), pp.61-103.

Baro, E. E., and Endouware, B. E. C., 2013. The Effects of Mobile Phone on the Socio-economic Life of the Rural Dwellers in the Niger Delta Region of Nigeria. *Information Technology for Development, 19* (3), pp. 249-263.

Becker, H.S., 1998. *Tricks of the Trade.* Chicago, IL: University of Chicago Press.

Bell, J., 1993. *Doing your Research Project.* Buckingham, England: Open University Press.

Benazir Income Support Programme (BISP). Government of Pakistan. [online]. Available at: www.bisp.gov.pk.

Bijker, W.E., 1987. The Social Construction of Bakelite: Towards a Theory of Invention. In: W.E. Bijker, T.P. Hughes and T. Pinch, ed. 1987. *The Social Construction of Technological Systems.* Cambridge, MA: MIT Press, pp.159-187.

Bijker, W.E. and Law, J., 1992. The Social Construction of Technological Systems. In: W.E. Bijker and J. Law eds. *Shaping Technology/ Building Society: Studies in Socio-technical Change*. Cambridge, MA: MIT Press, pp. 225- 258.

BISP, 2014. *Brief on Benazir Income Support Programme (BISP): A Social Safety Net.* Benazir Income Support Programme. Islamabad: Government of Pakistan.

Blaike, N., 2000. *Designing Social Research: The Logic of Anticipation.* Cambridge, UK: Polity.

Bloor, M., Frankland, J., Thomas, M. and Robson, K., 2011. *Focus Groups in Social Research.* Thousand Oaks, CA: Sage.

Bold, C., 2011. *Branchless Banking in Pakistan: A Laboratory for Innovation.* CGAP Report [pdf] Washington D.C.: World Bank. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/9449/649920BRI00PUB0ctober0201100PUBLIC0.pdf?sequence=1> [Accessed 3 March 2013].

Bold, C., Porteous, D. and Rotman, S., 2012. *Social Cash Transfers and Financial Inclusion: Evidence from Four Countries.* CGAP Report [pdf] Washington, D.C.: World Bank. Available at: https://www.cgap.org/sites/default/files/Focus-Note-Social-Cash-Transfers-and-Financial-Inclusion-Evidence-from-Four-Countries-Feb-2012.pdf

Boyatiz, R.E., 1998. *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage.

Boyatiz, R.E., 2007. *Transforming Qualitative Information.* Thousand Oaks, CA: Sage.

Braa, J., Hanseth, O., Heywood, A., Mohammed, W. and Shaw, V., 2007. Developing Health Information Systems in Developing Countries. The Flexible Standards Strategy. *MIS Quarterly, Special Issue on IT and Development,* 31 (2), pp. 381-402.

Braun, V. and Clarke, V., 2006. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology,* 3 (2), pp.77-101.

Braverman, H., 1974. *Labour and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.

Brown, A.E. and Grant, G.G., 2010. Highlighting the Duality of the ICT and Development Research Agenda. *Information Technology for Development,* 16 (2), pp. 96-111.

Bryman, A., 2006. Integrating Quantitative and Qualitative Research: How is it Done? *Qualitative Research*, 6 (1), pp. 97-113.

Bryman, A., 2008. *Social Research Methods.* 3rd ed. Oxford: Oxford University Press.

Bryman, A., 2012. *Social Research Methods*. 4th ed. Oxford: Oxford University Press.

Bryman, A. and Bell, E., 2007. *Business Research Methods.* Revised edition. Oxford: Oxford University Press.

Bryman, A. and Burgess, R., 1994. *Analyzing Qualitative Data*. First Edition. London and New York: Routledge.

Bulmer, M., 1993. Introduction. In: M. Bulmer and D.P. Warwick, eds. *Social Research in Developing Countries: Surveys and Censuses in the Third World*. London and New York: Routledge.

Burrell, G. and Morgan, G., 1979. *Sociological Paradigms and Organization Analysis.* London: Heinemann Books.

Buskens, I. and Webb, A., 2009. *African Women and ICTs: Creating New Spaces with Technology.* London: Zed Books Ltd.

Callon, M., 1991. Techno-economic Networks and Irreversibility. In: J. Law, ed. *A Sociology of Monsters: Essays on Power, Technology and Domination,* Sociological Review Monograph. London: Routledge. 38, pp. 132-161.

Camner, G. and Sjöblom, E., 2009. *Can the Success of M-PESA be Repeated? A Review of the Implementations in Kenya and Tanzania* [pdf] Nairobi: Valuable bits. Available at <http://mobileactive.org/files/file_uploads/camner_sjoblom_differences_ke_tz.pdf> [Accessed 1 March 2013].

Carmody, P., 2009. *A New Socio-economy in Africa? The Thintegration and the Mobile Phone Revolution.* Working Paper 279. Trinity College, Dublin: Institute for International Integration Studies.

Carmody, P., 2012. The Informationalization of Poverty in Africa? Mobile Phones and Economic Structure. *Information Technologies and International Development,* 8 (3), pp. 1-17.

Carmody, P., 2013. A Knowledge Economy or an Information Society in Africa? Thintegration and the Mobile Phone Revolution. *Information Technology for Development, 19* (1), pp. 24-39.

Carr, W. and Kemmis, S., 1986. *Becoming Critical: Education, Knowledge and Action Research.* Philadelphia: Falmer.

Carter, N.M., 1984. Computerization as a Predominate Technology: It's Influence on the Structure of Newspaper Organizations. *Academy of Management Journal,* (27), pp. 247-270.

Casal, C.R., 2007. ICT for Education and Development: *Info*, 9 (4) pp.3-9.

Cassell, C. and Symon, G., 2004. *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage. pp. 323- 333.

Castells, M., 2007. Communication, Power and Counter-Power in the Network Society. *International Journal of Communication,* 1 (1), pp. 238-266.

Castells, M., 2012. *Networks of Outrage and Hope: Social Movements in the Internet Age*. Boston, MA: Polity.

Cecchini, S. and Scott, C., 2003. Can Information and Communications Technology Applications Contribute to Poverty Reduction? Lessons from Rural India: *Information Technology for Development*, 10 (2) pp.73-84.

Cecez-Kecmanovic, D., Galliers, R.D., Henfridsson, O., Newell, S. and Vidgen, R., 2015. The Sociomateriality of Information Systems: Current Status, Future Directions. *MIS Quarterly, Special Issue: Sociomateriality of IS & Organizing*, pp. 1-22.

CGAP, 2011a. *Technology Program Note Pakistan.* Consultative Group to Assist the Poor Report [pdf]. Washington, D.C.: World Bank. http://www.cgap.org/sites/default/files/CGAP-Technology-Program-Country-Note-Pakistan-Apr-2011.pdf

CGAP, 2011b. *Global Standard-Setting Bodies and Financial Inclusion for the Poor. Toward Proportionate Standards and Guidance.* Consultative Group to Assist the Poor

Paper on behalf of the G-20's Global Partnership for Financial Inclusion. Washington, D.C.: World Bank. http://www.gpfi.org/sites/default/files/documents/SSBs%20paper.pdf

CGAP, 2012. *Interoperability and the Pathways towards Inclusive Retail Payments in Pakistan.* Consultative Group to Assist the Poor Report [pdf]. Washington, D.C.: Bankable Frontier Associates. http://www.cgap.org/publications/interoperability-and-pathways-towards-inclusive-retail-payments-pakistan

CGAP, 2013. *Linking Electronic Payments and Social Cash Transfers in India.* Consultative Group to Assist the Poor Report [pdf]. Washington, D.C.: World Bank. http://www.cgap.org/news/linking-electronic-payments-and-social-cash-transfers-india

CGAP and World Bank, 2010. *Financial Access 2010: The State of Financial Inclusion through the Crisis*. Report [online]. Washington, D.C.: CGAP and the World Bank. https://www.cgap.org/sites/default/files/CGAP-Financial-Access-2010.pdf

Charmaz, K., 2007. Constructionism and Grounded Theory. In: J.A. Holstein and J.F. Gubrium, ed. 2007. *Handbook of Constructionist Research.* New York: Guilford, pp.319-412.

Charmaz, K., 2008. Reconstructing Grounded Theory. In: L. Bickman and P. Alassuutari and J. Brannen, ed. 2008. *The Sage Handbook of Social Research Methods.* London: Sage, pp.461-478.

Charmaz, K., 2009. Shifting the Grounds: Constructivist Grounded Theory Methods for the Twenty-first Century. In: J.M. Morse, P.N. Stern, J. Corbin, B. Bowers, K. Charmaz and A.E. Clarke, ed. 2009. *Developing Grounded Theory: The Second Generation.* Walnut Creek, CA: Left Coast Press, pp.127-154.

Charmaz, K., 2011. Grounded Theory Methods in Social Justice Research. In: N.K. Denzin and Y.S. Lincoln, ed. 2011. *The Sage Handbook of Qualitative Research.* 4th ed. Thousand Oaks, CA: Sage, pp.359-380.

Chen, G., 2012. *The Growth of Mobile Financial Services in Bangladesh*. CGAP Report [pdf] Washington D.C.: World Bank. Available at: <http://www.cgap.org/blog/growth-mobile-financial-services-bangladesh> [Accessed 17 July 2013].

Chibba, M., 2009. Financial Inclusion, Poverty Reduction and the Millennium Development Goals. *European Journal of Development Research*, 21, pp, 213–230.

Chopra, P., 2013. *Optimising Commissions and Pay-out Mechanisms for G2P Payments under Electronic and Direct Benefit Transfer*. Micro-Save Policy Brief 11. Lucknow.http://www.microsave.net/files/pdf/PB_11_Optimising_Commissions_and_Payout_Mechanism_For_G2P_Payments_Under_Electronic_and_Direct_Benefit_Transfer.pdf

Ciborra, C., 2005. Interpreting E-Government and Development: Efficiency, Transparency or Governance at a Distance? *Information Technology and People*, 18 (3), pp. 260-279.

Collis, J. and Hussey, R., 2003. *Business Research.* Hampshire: Palgrave Macmillan.

Constitution of Pakistan, 2010. *Promotion of Social and Economic Well-being of the People in the Constitution in Pakistan*. [online]. Available at: http://pakistanconstitutionlaw.com/article-38-promotion-of-social-and-economic-well-being-of-the-people/

Cooley, M., 1980. Computerization: Taylor's Latest Disguise. *Economic and Industrial Democracy*, 1, pp. 523-539.

Cornford, T. and Smithson, S., 1996. *Project Research in Information Systems: A Student's Guide*. London: Palgrave.

Cracknell, D., 2004. Electronic Banking for the Poor Panacea, Potential and Pitfalls. *Small Enterprise Development*, 15 (4), pp.8-24.

Creswell, J. W., 2012. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. Thousand Oaks, CA: Sage.

Crotty, M., 1998. *The Foundations of Social Research: Meaning and Perspective in the Research Process.* Thousand Oaks, CA: Sage.

Cruz, P., Neto, L.B.F., Muñoz-Gallego, P. and Laukkanen, T., 2010. Mobile Banking Rollout in Emerging Markets: Evidence from Brazil. *International Journal of Bank Marketing,* 28 (5), pp.342-371.

Cunha, J., 2010. *Testing Paternalism: Cash vs. In-kind Transfers in Rural Mexico*. Stanford University. http://www.frbsf.org/economic

Dahlager, L., 2010. Power and the Social Dimension of Existence. *Existential Analysis. Journal of the Society for Existential Analysis,* 21 (2), pp.223-237.

Dancey, K., 2013. Why Payment Systems Matter to Financial Inclusion: Examining the Role of Social Cash Transfers. *Journal of Payments Strategy and Systems.* 7 (2), pp. 119-124.

Davis, L.E. and Taylor, J.C., 1986. Technology, Organization and Job Structure. In: R. Dublin, ed. 1986. *Handbook of Work, Organization and Society*. Chicago, IL: Rand McNally, pp.379-419.

Davis, F. D., Bagozzi, R. P. and Warshaw, P. R., 1989. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35 (8), pp. 982–1003.

Davis, F.D., 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13 (3), pp. 319–340.

Demirguc-Kunt, A. and Klapper, L., 2012. *Measuring Financial Inclusion. The Global Findex Database*. World Bank Policy Research Working Paper 6025 [pdf]. World Bank.https://openknowledge.worldbank.org/bitstream/handle/10986/6042/WPS6025.pdf?sequence=1

Demombynes, G. and Thegeya, A., 2012. *Kenya's Mobile Revolution and the Promise of Mobile Savings*. World Bank Policy Research Working Paper, [online] (5988).

Denscombe, M., 2010. *The Good Research Guide for Small-scale Social Research Projects.* Berkshire: Open University Press.

Denzin, N.K. and Lincoln, Y.S. ed., 1994. *Handbook of Qualitative Research.* Thousand Oaks, CA: Sage.

Denzin, N.K. and Lincoln, Y.S. ed., 2011. *The Sage Handbook of Qualitative Research.* 4th Edition ed. Thousand Oaks, CA: Sage.

Denzin, N.K. and Lincoln, Y.S. ed., 2013. *Collecting and Interpreting Qualitative Materials.* 4th ed. Thousand Oaks, CA: Sage.

Denzin, N.K. and Lincoln, Y.S., 2011. Introduction: The Discipline and Practice of Qualitative Research. In: N.K. Denzin and Y.S. Lincoln, ed. 2011. *The Sage Handbook of Qualitative Research.* 4th ed. Thousand Oaks, CA: Sage, pp.1-19.

Denzin, N.K., 1983. Interpretive Interactionism. In: G. Morgan, ed. 1983. *Beyond Method: Strategies for Social Research.* Beverly Hills, CA: Sage.

DeSanctis, G. and Poole, M.S., 1994. Capturing the Complexity in Advanced Technology Using Adaptive Structuration Theory. *Organization Science,* 5 (2), pp.121-47.

Devereux, S. and Vincent, K., 2010. Using Technology to Deliver Social Protection: Exploring Opportunities and Risks. *Development in Practice*, *20* (3), pp. 367-379.

DFID, 2009. *Designing and Implementing Financially Inclusive Payment Arrangements for Social Transfer Programmes*. Department for International Development. A Policy Manual. London: DFID.

Donner, J. and Escobari, M.X., 2010. A Review of Evidence on Mobile Use by Micro and Small Enterprises in Developing Countries. *Journal of International Development,* 22 (5), pp. 641-658.

Donner, J. and Tellez, C.A., 2008. Mobile Banking and Economic Development: Linking Adoption, Impact, and Use. *Asian Journal of Communication,* 18 (4), pp. 318-332.

Donner, J., 2004. Micro-entrepreneurs and Mobiles: An Exploration of the Uses of Mobile Phones by Small Business Owners in Rwanda. *Information Technologies and International Development,* 2 (1), pp.1-21.

Donner, J., 2006. The Use of Mobile Phones by Micro-entrepreneurs in Kigali, Rwanda: Changes to Social and Business Networks. *Information Technologies and International Development,* 3 (2), pp.3-19.

Donner, J., 2007. Customer Acquisition among Small and Informal Businesses in Urban India: Comparing Face-to-face and Mediated Channels. *The Electronic Journal on Information Systems in Developing Countries,* 32 (3), pp. 1-16.

Donner, J., 2008. Research Approaches to Mobile Use in the Developing World: A Review of the Literature. *The Information Society,* 24 (3), pp. 140-159.

Donner, J., 2009. Blurring Livelihoods and Lives: The Social Uses of Mobile Phones and Socio-economic Development. *Innovations: Technology, Governance, Globalization,* 4 (1), pp. 91-101.

Duncombe, R. and Boateng, R., 2009. Mobile Phones and Financial Services in Developing Countries: A Review of Concepts, Methods, Issues, Evidence and Future Research Directions. *Third World Quarterly,* 30 (7), pp.1237-1258.

Dwyer, J., 1993. Outdoor Recreation Participation: An Update on Blacks, Whites, Hispanics, and Asians in Illinois. Managing Urban and High-Use Recreation Settings. USDA Forest Service General Technical Report NC-163, pp. 119-121.

Easterby-Smith, M., Thorpe, R. and Jackson, P., 2008. *Management Research.* 3rd ed. London: Sage.

Easterby-Smith, M., Thorpe, R. and Lowe, A., 1991. *Management Research: An Introduction.* London: Sage.

Ehrbeck, T., 2011. *Financially Inclusive Ecosystems: The Role of Government Today*. CGAP Report [pdf]. Washington, D.C.: World Bank.

https://www.cgap.org/sites/default/files/Focus-Note-Financially-Inclusive-Ecosystems-The-Roles-of-Government-Today-Feb-2012.pdf

Ehrbeck, T., Lochan, R., Sinha, S., Tahliyani, N. and Zainulbhai, A., 2010. *Inclusive Growth and Financial Security. The Benefits of E-payments to Indian Society.* New York: McKinsey & Company.

Ehrbeck, T., Pickens, M. and Tarazi, M., 2012. *Financially Inclusive Ecosystems: The Roles of Government Today*. CGAP No. 76: World Bank. https://www.cgap.org/sites/default/files/Focus-Note-Financially-Inclusive-Ecosystems-The-Roles-of-Government-Today-Feb-2012.pdf

Emmett, B., 2012. *Electronic Payment for Cash Transfer Programmes: Cutting Costs and Corruption or an Idea Ahead of its Time?* Pension Watch Briefing 8. London: Help Age International.

Etzo, S. and Collender, G., 2010. The Mobile Phone 'Revolution' in Africa: Rhetoric or Reality? *African Affairs*, 109 (437), pp. 659-668.

Faulkner, P. and Runde, J., 2012. 'On Sociomateriality'. In: P.M. Leonardi, B.A. Nardi and J. Kallinikos, eds. *Materiality and Organizing: Social Interaction in a Technological World.* Oxford, UK: Oxford University Press, pp. 49-66.

Fay, B., 1987. *Critical Social Science.* Ithaca, NY: Cornell University Press.

Foster, C. and Heeks, R., 2013a. Conceptualizing Inclusive Innovation: Modifying Systems of Innovation Frameworks to Understand Diffusion of New Technology to Low-Income Consumers. *European Journal of Development Research*, 25, pp.333-335.

Foster, C. and Heeks, R., 2013b. Innovation and Scaling of ICT for the Bottom-of-the-Pyramid. *Journal of Information Technology*, 28, pp. 296-315.

Foucault, M., 1980. *Power/ Knowledge: Selected Interviews and Other Writings 1972-1977.* New York: Prentice Hall.

Foucault, M., 1982. The Subject and Power. In: H. Dreyfus and P. Rabinow, eds. 1982. *In Michel Foucault: Beyond Structuralism and Hermeneutics*. New York and London: Harvester Wheat Sheaf. Pp. 208-226.

Frempong, G., 2009. Mobile Telephone Opportunities: The Case of Micro-and Small Enterprises in Ghana. *Info,* 11 (2), pp.79-94.

Frieden, S., 1989. Transformative Subjectivity in the Writings of Christa Wolf. In: Personal Narratives Group, ed. 1989. *Interpreting Women's Lives: Feminist Theory and Personal Narratives.* Bloomington: Indiana University Press, pp.172-188.

Frith, H. and Gleeson, K., 2004. Clothing and Embodiment: Men Managing Body Image and Appearance. *Psychology of Men and Masculinity*, 5, pp. 40-48.

Geertz, C., 1973. Thick Description: Toward an Interpretive Theory of Culture. In: C. Geertz, ed. 1973. *The Interpretation of Cultures.* New York: Basic Books, pp. 2-30.

Gelb, A. and Decker, C., 2012. Cash at Your Fingertips: Biometric Technology for Transfers in Developing Countries. *Review of Policy Research, 29* (1), pp. 91-117.

Gerth, H.H. and Mills, C.W. ed., 1970. *From Max Weber: Essays in Sociology.* New York: Oxford University Press.

Ghauri, P. and Grønhaug, K., 2005. *Research Methods in Business Studies: A Practical Guide.* 3rd ed. Essex, UK: Pearson Education Limited.

Gibbons, M.T., 1987. Introduction: The Politics of Interpretation. In: M.T. Gibbons (Ed.), ed. 1987. *Interpreting Politics.* New York: New York University Press, pp.1-31.

Gibbs, G.R., 2002. *Qualitative Data Analysis. Explorations within NVivo*. Buckingham.UK: Open University Press.

Giddens, A., 1979. *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis.* Berkeley, CA: University of California Press.

Giddens, A., 1984. *The Constitution of Society: Outline of the Theory of Structure.* Berkeley, CA: University of California Press.

Giddens, A., 1990. “Structuration Theory and Sociological Analysis, In: J. Clark, C. Modgil, and J. Modgil, eds. *Anthony Giddens: Consensus and Controversy*. Brighton, UK: Falmer Press, pp. 297-315.

Giddens, A., 1991. “Structuration Theory: Past, Present and Future”. In: C. G. A. Bryant and D. Jary, eds. *Giddens’ Theory of Structuration: A Critical Appreciation.* London: Routledge, pp. 201-221.

Giddens, A., 1993. *New Rules of Sociological Method.* 2nd ed. Cambridge, UK: Polity Press.

Giddens, A., and Pierson, C., 1998. *Conversations with Anthony Giddens,* Cambridge, UK: Polity Press.

Gillham, B., 2000. *Case Study Research Methods*. London: Continuum.

Gilhooly, D. and Ocampo, J. ed., 2005. *Creating an Enabling Environment: Toward the Millennium Development Goals.* Proceedings of the Berlin Global Forum on the United Nations Information and Communication Technologies (ICT) Task Force Series 6, Document No. E/2005/ 71. New York: United Nations. ISBN 92-1-104535-5

Goland, T., Bays, J. and Chaia, J., 2010. *From Millions to Billions: Achieving Full Financial Inclusion.* London: McKinsey & Company.

Gomathy, M., 2015. An Overview of Financial Inclusion and Rural Development in India. *Journal of Business and Management*, 17 (8), pp. 6-11.

Good, T. and Qureshi, S. ed., 2009. Investigating the Effects of Micro-enterprise Access and Use of ICTs through a Capability Lens: Implications for Global Development. *Proceedings of the Second Annual SIG Global Development Workshop,* [on-line] Phoenix, USA, December 14, 2009.

Gopakumar, K.R., 2007. E-governance Services through Telecentres. The Role of Human Intermediary and Issues of Trust. *Information Technologies and International Development,* 4 (1), pp. 19-35.

Grix, J., 2001. Introducing Students to the Generic Terminology of Social Research. *Politics,* 22 (3), pp.175-186.

Guba, E.G. and Lincoln, Y.S., 1981. *Effective Evaluation: Improving the Usefulness of Evaluation Results through Responsive and Naturalistic Approaches.* San Francisco: Jossey-Bass.

Guba, E.G. and Lincoln, Y.S., 1982. Epistemological and Methodological Bases for Naturalistic Inquiry. *Educational Communications and Technology Journal,* 31, pp. 233-252.

Guba, E.G. and Lincoln, Y.S., 1985. *Naturalistic Inquiry.* Newbury Park, CA: Sage.

Guba, E.G. and Lincoln, Y.S., 1994. Competing Paradigms in Qualitative Research. In: N.K. Denzin and Y.S. Lincoln, ed. 1994. *Handbook of Qualitative Research.* 3rd Edition ed. Thousand Oaks, CA: Sage, pp.105-117.

Guba, E.G., 1990. *The Paradigm Dialog.* Newbury Park, CA: Sage.

Guba, E.G., 1996. What Happened To Me On The Road to Damascus? In: L. Heshusius and K. Ballard, ed. 1996. *From Positivism to Interpretivism and Beyond: Tales of Transformation in Educational and Social Research.* New York: Teachers College Press, pp.43-49.

Gurumurthy, A., 2004. *Gender and ICTs.* Institute of Development Studies, UK: Bridge Publications.

Hafkin, N., 2002. *Is ICT Gender Neutral? A Gender Analysis of Six Case Studies of Multi Donor ICT Projects.* Santo Domingo, Dominican Republic: United Nations International Research and Training Institute for the Advancement of Women (INSTRAW).

Hamel, J.Y., 2010. *ICT4D and the Human Development and Capabilities Approach: The Potentials of Information and Communication Technology.* Human Development Reports Research Paper 2010/37. United Nations Development Programme (UNDP).

Hayes, N. and Westrup, C., 2012. Context and the Processes of ICT for Development. *Information and Organization,* 22 (1), pp. 23-36.

Heeks, R., 1999. *Reinventing Government in the Information Age: International Practice in IT Enabled Public Sector Reform*. London: Routledge.

Heeks, R., 2005. E-Government as a Carrier of Context. *Journal of Public Policy*, 25 (1), pp. 51-74.

Heeks, R., 2008. ICT4D 2.0: The Next Phase of Applying ICT for International Development. *Computer*, 41 (6), pp. 26-33.

Heeks, R., 2009. Emerging Markets IT and the World's "Bottom Billion". *Communications of the ACM*, 52 (4), pp. 22-24.

Heeks, R., 2010a. Development 2.0: The IT-Enabled Transformation of International Development: *Communications of the ACM*, 53 (4), pp. 22-24.

Heeks, R., 2010b. Do Information and Communication Technologies (ICTs) Contribute to Development? *Journal of International Development*, 22 (5), pp. 625-640.

Heeks, R., Foster, C. and Nugroho, Y., 2014. New Models of Inclusive Innovation for Development. *Innovation and Development*, 4 (2), pp. 175-185.

Heyer, A. and Mas, I., 2009. *Seeking Fertile Grounds for Mobile Money.* Working Paper [pdf]. Bill and Melinda Gates Foundation: GSMA.

Hinman, R. and Matovu, J., 2010. Opportunities and Challenges for Mobile-based Financial Services in Rural Uganda. *ACM*, pp.3925-3930.

Holden, M.T. and Lynch, P., 2004. Choosing the Appropriate Methodology: Understanding Research Philosophy. *The Marketing Review*, 4 (4), pp. 397-409. Available through: Google.

Hughes, N. and Lonie, S., 2007. M-PESA: Mobile Money for the "Unbanked" Turning Cellphones into 24-hour Tellers in Kenya. *Innovations: Technology, Governance, Globalization*, 2 (1-2), pp. 63-81.

Ilahiane, H. and Sherry, J., 2012. The Problematics of the "Bottom of the Pyramid" Approach to International Development: The Case of Micro-Entrepreneurs' Use of

Mobile Phones in Morocco. *Information Technologies and International Development*, 8 (1), pp.13-26.

Ivatury, G. and Lyman, T., 2008. *Regulatory Issues in Branchless Banking: The New Frontier*. Washington, D.C.: CGAP.

Ivatury, G. and Mas, I., 2008. *The Early Experience with Branchless Banking.* CGAP Focus Note, No. 46. Washington, D.C.: CGAP.

Ivatury, G. and Pickens, M., 2006. *Mobile Phones for Microfinance.* CGAP Brief. Washington, D.C.: World Bank.

Jack, W. and Suri, T., 2011. *Mobile Money: The Economics of M-PESA.* MIT Sloane, USA: National Bureau of Economic Research.

Jack, W., Suri, T. and Townsend, R., 2010. Monetary Theory and Electronic Money: Reflections on the Kenyan Experience. *Economic Quarterly*, 96 (1), pp. 83-122.

Jagun, A., Heeks, R. and Whalley, J., 2008. The Impact of Mobile Telephony on Developing Country Micro-enterprise: A Nigerian Case Study. *Information Technologies and International Development*, 4 (4), pp. 47-65.

Jenkins, B., 2008. *Developing Mobile Money Ecosystems.* Washington, D.C.: International Finance Corporation and Harvard Kennedy School.

Jensen, R., 2007. The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector. *The Quarterly Journal of Economics*, 122 (3), pp. 879-924.

Jiménez-Anca, J.J., 2013. Beyond Power. *European Journal of Social Theory*, 16 (1), pp. 36-50.

Joffe, H. and Yardley, L., 2010. Content and Thematic Analysis. In: F. David Marks and L. Yardley, ed. 2010. *Research Methods for Clinical and Health Psychology.* London: Sage.

Jones, M. R., 1999. "Structuration Theory". In: W. J. Currie and R. Galliers, eds. *Re-thinking Management Information Systems*. Oxford: Oxford University Press, pp. 103-135.

Jones, M. R., and Karsten, H., 2008. Giddens's Structuration Theory and Information Systems Research. *MIS Quarterly, 32* (1), pp. 127-157.

Jones, M., Orlikowski, W., and Munir, K., 2004. Structuration Theory and Information Systems: A Critical Reappraisal. *Social Theory and Philosophy for Information Systems*, pp. 297-328.

Kamberelis, G. and Dimitriadis, G., 2008. *Focus Groups: From Structured Interviews to Collective Conversations.* First Edition. New York: Routledge.

Kabeer, N., 1999. Resources, Agency and Achievements: Reflections on the Measurement of Women's Empowerment. *Development and Change*, 30 (4), pp. 435-464.

Kabeer, N., 2005. Gender Equality and Women's Empowerment: A Critical Analysis of Third MDG. *Gender and Development*, 13 (1), pp. 13-24.

Kallinikos, J., Leonardi, P.M. and Nardi, B.A., 2012. 'The Challenge of Materiality: Origin, Scope and Prospects'. In: P.M. Leonardi, B.A. Nardi and J. Kallinikos, eds. *Materiality and Organizing: Social Interaction in a Technological World.* Oxford, UK: Oxford University Press, pp. 1-22.

Karrer-Rueedi, E. and Trueb, D., 2011. Empowering Micro-entrepreneurs and Small Businesses through Mobile Phones in Emerging Markets and Developing Countries. *ATDF Journal*, 8 (3/4), pp.13-18.

Karsten, H., 1995. 'It's Like Everyone Working Around the Same Desk': Organizational Readings of Lotus Notes. *Scandinavian Journal of Information Systems,* **7** (1), pp. 3-32.

Katsina, M.N.I. and Abdulkareem, A., ed., 2012. Use of Mobile Phones among Informal Microenterprises in Katsina, Nigeria. *Proceedings of the International Conference on*

Computing, Communication Systems and Informatics Management (ICCCSIM), Dubai [on-line] Dubai, UAE, July 2012.

Kautz, K. and Jensen, T.B., 2013. Sociomateriality at the Royal Court of IS: A Jester's Monologue. *Information and Organization*, 23, pp. 15-27.

Kazmi, S.H., 2012. Growing Branchless Banking. *Pakistan & Gulf Economist,* [online] Issue 10, December. http://www.pakistaneconomist.com/issue2012/issue10/cover10.php [Accessed 8 July, 2013].

Kemal, A., 2015. Mobile Banking as Enabling and Constraining Financial Inclusion in Pakistan- A Theoretical Perspective. *Proceedings of 'Knowledge Practices in the Contemporary World'. London School of Economics and Political Science (LSE)*: London, UK, 26-26 September 2014. *Published in Special Issue of iS CHANNEL*, Volume 9 (2), pp. 23-34. ISSN 2042-5686 (Online). Available [pdf] at: http://lse.ac.uk/ischannel

Kemal, A. and Yan, L., 2015. Mobile Banking Adoption and Diffusion- Enabling and Constraining Social or Financial Inclusion among Poor Women in Pakistan. *Proceedings of 'The Networked Society'. Twenty Third European Conference on Information Systems (ECIS)*: Munster, Germany, 26-29 May 2015. Available in the Association of Information Systems Electronic Library (AISeL) http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1095&context=ecis2015_cr

Kimenyi, M. and Ndung'u, N., 2009. *Expanding the Financial Services Frontier: Lessons from Mobile Phone Banking in Kenya.* Washington, D.C.: Brookings Institution.

King, M., 2012. *Is Mobile Banking Breaking the Tyranny of Distance to Bank Infrastructure? Evidence from Kenya.* Discussion Paper 412. Institute for International Integration Studies. Dublin: Trinity College.

Kitzinger, J., 2005. Focus Group Research: Using Group Dynamics to Explore Perceptions, Experiences and Understandings. In: I. Holloway, ed. *Qualitative Research in Health Care.* Maidenhead: Open University Press, pp.56-6.

Kleine, D., 2009. The Ideology behind the Technology- Chilean Micro-entrepreneurs and Public ICT Policies. *Geoforum*, 40, pp. 171-183.

Klein, H. and Meyers, M., 1999. A Set of Principles for Conducting and Evaluating Interpretive Field Studies. *MIS Quarterly*, 23 (1), pp. 67-93.

Kline, R. and Pinch, T., 1996. Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States. *Technology and Culture*, 37 (4), pp.763-795.

Komunte, M. and Rwashana, A.S., 2012. Comparative Analysis of Mobile Phone Usage among Women Entrepreneurs in Uganda and Kenya. *African Journal of Computing and ICT*, 5 (5), pp.74- 86.

Kumar, M. and Mishra, K., 2014. Financial Inclusion: An Imminent Choice in Rural India. *Tactful Management Research Journal*, 3 (1), pp. 1- 6.

Kyem, P.A.K., 2012. Is ICT the Panacea to Sub-Saharan Africa's Development Problems? Rethinking Africa's Contentious Engagement with the Global Information Society: *Progress in Development Studies*, 12 (2), pp.231- 244.

Lambert, S.D. and Loiselle, C.G., 2008. Combining Individual Interviews and Focus Groups to Enhance Data Richness. *Journal of Advanced Nursing*, 62 (2), pp. 228-237.

Latour, B., 1991. *Technology is Society Made Durable.* Routledge. [pdf], pp. 103-121. Available at: http://www.bruno-latour.fr/sites/default/files/46-TECHNOLOGY-DURABLE-GBpdf.

Latour, B., 2005. *Reassembling the Social- An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Law, J., 2009. Actor Network Theory and Material Semiotics. In: B.S. Turner, ed. *The New Blackwell Companion to Social Theory*. Malden, MA: Wiley-Blackwell.

Lea, M., O'Shea, T. and Fung, P., 1995. Constructing the Networked Organization: Content and Context in the Development of Electronic Communication. *Organization Science*, 6 (4), pp. 462- 478.

LeCompte, M.D., Preissle, J. and Tesch, R., 1993. *Ethnography and Qualitative Design in Educational Research.* 2nd edition. New York: Academic Press.

Lee, A., 1989. A Scientific Methodology for MIS Case Studies. *MIS Quarterly*, March, pp. 32-50.

Lee, H., Harindranath, G. and Kim D-J., 2015. Provision of Mobile Banking from an Actor Network Perspective: Implications for Convergence and Standardization. Technological Forecasting and Social Change, 90, pp. 551- 561.

Lehrer, R. and West, H., 2014. *Literacy a Hurdle to Financial Inclusion*. CGAP [blog]. Washington, D.C. Available through: Google: http://www.cgap.org/blog/literacy-hidden-hurdle-financial-inclusion.

Lehrer, R. and West, H., 2014. *Working with the Poorest in Pakistan*. CGAP [blog]. Washington, D.C. Available through: Google: http://www.cgap.org/blog/working-poorest-women-pakistan

Leonardi, P.M., 2012. 'Materiality, Sociomateriality and Socio-Technical Systems: What Do These Mean? How Are They Different?' In: P.M. Leonardi, B.A. Nardi and J. Kallinikos, eds. *Materiality and Organizing: Social Interaction in a Technological World.* Oxford, UK: Oxford University Press, pp. 25-48.

Leonardi, P.M., 2013. Theoretical Foundations for the Study of Sociomateriality. *Information and Organization*, 23, pp. 59-76.

Leonardi, P.M. and Barley, S.R., 2008. Materiality and Change: Challenges to Building Better Theory about Technology and Organizing. *Information and Organization*, 18, pp. 159-176.

Lincoln, Y.S., 1995. Emerging Criteria for Quality in Qualitative and Interpretive Research. *Qualitative Inquiry,* 1, pp. 275-289.

Lincoln, Y.S., 1997. What Constitutes Quality in Interpretive Research? In: C.K. Kinzer, K.A. Hinchman and D.J. Leu, eds. 1997. *Inquiries in Literacy: Theory and Practice.* Chicago: National Reading Conference, pp.54-68.

Lindert, K., Linder, A., Hobbs, J. and de la Brière, B., 2007. *The Nuts and Bolts of Brazil's Bolsa Família Program: Implementing Conditional Cash Transfers in a Decentralized Context*. Social Protection Discussion Paper 709. Washington, D.C: The World Bank.

Lochan, R., Mas, I., Radcliffe, D, Sinha, S. and Tahilyani, N., 2010. The Benefits to Government of Connecting Low Income Households to an E-Payment System: An Analysis in India. *Lydian Journal,* [online] December 2010.

Lyman, T., Ivatury, G. and Staschen, S., 2006. *Use of Agents in Branchless Banking for the Poor: Rewards, Risks and Regulation.* Consultative Group to Assist the Poor (CGAP), Focus Note 38. Washington, D.C.: World Bank.

Lyman, T., Pickens, M. and Porteous, D., 2008. *Regulating Transformational Branchless Banking: Mobile Phones and Other Technology to Increase Access to Finance*. CGAP Focus Note 43. Washington, D.C.: World Bank.

Lynham, S.A. and Webb-Johnson, G.W., 2008. *Models of Epistemology and Inquiry Class Notes.* Texas: Texas A&M University.

MacDonald, B. and Gedeon, H., 2012. *Banking With Mobile Phones in Haiti.* Report Commissioned by the Catholic Relief Services. Baltimore, MD, USA.

MacKenzie, D. and Wajcman, J. ed., 1999. *The Social Shaping of Technology*. Second edition. Buckingham: Open University Press.

Madon, S., 2004. Evaluating the Developmental Impact of E-Governance Initiatives: An Exploratory Framework. *The Electronic Journal of Information Systems in Developing Countries*, 20 (5), pp. 1-13.

Madon, S., 2005. Governance Lessons from the Experience of Telecentres in Kerala. *European Journal of Information Systems*, 14 (4), pp. 401-416.

Madon, S., 2009. *E-Governance for Development: A Focus on Rural India*. London: Palgrave Macmillan.

Madon, S., Krishna, S. and Michael, E., 2010. Health Information Systems, Decentralisation and Democratic Accountability. *Public Administration and Development*, 30 (4), pp. 247-260.

Madon, S., Reinhard, N. and Roode, D. and Walsham, G., 2009. Digital Inclusion Projects in Developing Countries: Processes of Institutionalisation. *Information Technology for Development*, 15 (2), pp. 95-107.

Madon, S., Sahay, S. and Sahay, J., 2004. Implementing Property Tax Reforms in Bagalore: An Actor-Network Perspective. *Information and Organization*, 14 (4), pp. 269-295.

Markus, M.L., 1983. Power, Politics and MIS Implementation. *Communications of the ACM*, 26, pp. 430-444.

Markus, M. L. and Robey, D., 1988. Information Technology and Organizational Change: Causal Structure in Theory and Research. *Management Science*, 34 (5), pp. 583-598.

Marrelli, A. F., 2007. Collecting Data through Case Studies. *Performance Management*, 46 (7), pp. 39-44.

Marshall, M. N., 1996. Sampling for Qualitative Research. *Family Practice*, 13 (6), pp. 522-525.

Mas, I., 2009. The Economics of Branchless Banking. *Innovations: Technology, Governance, Globalization*, 4 (2), pp. 57-75.

Mas, I., 2012. Transforming Access to Finance in Developing Countries through Mobile Phones: Creating an Enabling Policy Framework. *Banking and Finance Law Review* [online], 27 (2), pp. 285- 298.

Mas, I. and Kumar, K., 2008. *Banking on Mobiles: Why, How, for Whom?* CGAP Focus Note 48. Washington, D.C.: World Bank. Available through Google at: <http://www.kiwanja.net/database/document/report_banking_on_mobiles_CGAP.pdf> [Accessed 2 March 2013].

Mas, I. and Morawczynski, O., 2009. *Designing Mobile Money Services Lessons from M-PESA.* MIT Press. Available at: <http://www.mitpressjournals.org/doi/pdfplus/10.1162/itgg.2009.4.2.77> [Accessed 26 February 2013].

Mas, I. and Ng'weno, A., 2010. Three Keys to M-PESA's Success: Branding, Channel Management and Pricing. *Journal of Payments Strategy and Systems*, 4 (4), pp. 352-370.

Mas, I. and Radcliffe, D., 2010. *Mobile Payments Go Viral: M-PESA in Kenya.* Washington, D.C.: World Bank.

Mascarenhas, O., 2010. Broadening the Agenda for ICTs for Poverty Reduction: Picture – Africa. *Information Technologies and International Development*, 6, Special Edition, pp. 37-44.

Massey, J., 2010. Role of Financial Institutions in Financial Inclusion. *FICCI Banking and Finance Journal* [online]. Issue 4, October 2010. http://www.ficci.com/sector/3/Add_docs/banking-digest-October-2010.pdf

Mathew, M., 2014. Empowering Rural Indian Women through Financial Inclusion-Challenges and Opportunities. *IJEMR* -Vol 4, Issue 4 - Online - ISSN 2249–2585 Print - ISSN 2249-8672.

Mathison, S., 2005. *Electronic Banking with the Poor: Increasing the Outreach and Sustainability of Microfinance through ICT Innovation*. Brisbane, Australia: The Foundation for Development Cooperation.

Mbogo, M., 2010. The Impact of Mobile Payments on the Success and Growth of Micro-Business: The Case of M-PESA in Kenya. *Journal of Language, Technology and Entrepreneurship in Africa*, 2 (1), pp. 182-203.

McMaster, T. and Wastell, D., 2005. Diffusion – or Delusion? Challenging an IS Research Tradition. *Information Technology and People*, 18 (4), pp. 383- 404.

Medhi, I., Ratan, A. and Toyama, K., 2009. Mobile-banking Adoption and Usage by Low-literate, Low-income Users in the Developing World. *Proceedings of IDGD 2009*. Springer, pp. 485-494.

Meganathan, M., Kumar, P. B., and Gandhi, R.S., 2015. Growth of Financial Inclusion on Banking in India. *International Journal of Management and Social Science Research Review*. 1 (9), pp. 68-73.

Merriam, S. B., 1988. *Case Study Research in Education: A Qualitative Approach.* San Francisco, CA: Jossey-Bass.

Merritt, C., 2010. Mobile Money Transfer Services: The Next Phase in the Evolution of Person-to-Person Payments. *Journal of Payments Strategy and Systems*, 5 (2), pp. 143-160.

Meyer, J.W. and Rowan, B., 1991. Institutionalized Organizations: Formal Structure as Myth and Ceremony. In: W.W. Powell and P.J. DiMaggio, eds. *The New Institutionalization in Organizational Analysis*. Chicago: Chicago University Press, pp. 41-62.

Miles, M.B. and Huberman, A.M., 1994. *Qualitative Data Analysis.* 2nd edition. London: Sage.

Mishra, V. and Bisht, S., 2013. Mobile Banking in a Developing Economy: A Customer-centric Model for Policy Formulation. *Telecommunications Policy*, 37 (6–7), pp. 503-514.

Mohrman, A.M. and Lawler, L.L., 1984. A Review of Theory and Research. In: F.W. McFarlan, ed. 1984. *The Information Systems Research Challenge.* Boston, MA: Harvard Press, pp.135-164.

Molony, T., 2006. 'I Don't Trust the Phone: It Always Lies': Trust and Information and Communication Technologies in Tanzanian Micro-and Small Enterprises. *Information Technologies and International Development*, 3 (4), pp. 67-83.

Morawczynski, O. ed., 2008. Surviving in the Dual System, 'How M-PESA is Fostering Urban-to-Rural Remittances in a Kenyan Slum-Towards an ICT Research Agenda for African Development. *Proceedings of the IFIP WG 9.4*, Pretoria [on-line] South Africa, August 2008.

Morawczynski, O., 2009. Exploring the Usage and Impact of 'Transformational' Mobile Financial Services: The Case of M-PESA in Kenya. *Journal of Eastern African Studies*, 3 (3), pp. 509-525.

Morawczynski, O., 2011. *Examining the Adoption, Usage and Outcomes of Mobile Money Services: The Case of M-PESA in Kenya.* Ph.D. The University of Edinburgh. Available at: <http://www.fsassessment.umd.edu/publications/pdfs/Kenya-MPESA-Community.pdf> [Accessed 7 March 2013].

Morawczynski, O. and Miscione, G., 2008. Examining Trust in Mobile Banking Transactions: The Case of M-PESA in Kenya. *Social Dimensions of Information and Communication Technology Policy*, pp.287-298.

Morawczynski, O. and Pickens, M., 2009. *Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA.* CGAP Brief. Washington, D.C.: World Bank.

Morawczynski, O., Hutchful, D., Rangaswamy, N. and Cutrell, E., 2010. The Bank Account is not Enough: Examining Strategies for Financial Inclusion in India. *Proceedings from ICTD 2010,* London, UK, 13-15 December.

Mumford, E. and Weir, M., 1979. *Computer Systems in Work Design--The ETHICS Method: Effective Technical and Human Implementation of Computer Systems: A Work Design Exercise Book for Individuals and Groups.* New York: Wiley.

Mumford, M.D., 2000. Managing Creative People: Strategies and Tactics for Innovation. *Human Resource Management Review*, 10 (3), pp. 313-351.

Mutch, A., 2013. Sociomateriality- A Wrong Turning? *Information and Organisation*, 23 (1), pp. 28-4.

Nayab, D. and Farooq, S., 2012. *Effectiveness of Cash Transfer Programmes for Household Welfare in Pakistan: The Case of the Benazir Income Support Programme.* Poverty and Social Dynamics Paper Series, PSDPS. Islamabad: Pakistan Institute of Development Economics.

Ndiwalana, A. and Popov, O. eds., 2008. Mobile Payments: A Comparison between Philippine and Ugandan Contexts. In: *IST-Africa 2008- Conference Proceedings* [online] *Africa, International Information Management Corporation*. Available at <http://urn.kb.se/resolve?urn=urn:nbn:se:miun:diva-8241> [Accessed 6 March 2013].

Ndlovu, I. and Ndlovu, M., 2013. Mobile Banking the Future to Rural Financial Inclusion: A Case Study of Zimbabwe. *IOSR Journal of Humanity and Social Science*, 9 (4), pp.70-75.

Ngugi, B., Pelowski, M. and Ogembo, J.G., 2010. M-PESA: A Case Study of the Critical Early Adopters' Role in the Rapid Adoption of Mobile Money Banking in Kenya. *The Electronic Journal of Information Systems in Developing Countries*, 43 (3), pp.1-16.

Noble, D.F., 1984. *Forces of Production: A Social History of Industrial Automation.* New York: Oxford University Press.

Oberländer, L., and Brossmann, M., 2014. *Electronic Delivery Methods of Social Cash Transfers.* Discussion Papers on Social Protection [pdf]. Available at: https://www.giz.de/fachexpertise/downloads/giz2014-en-electronic-delivery-methods-of-social-cash-transfers.pdf

Okpaku, J.O., 2006. Leapfrogging into the Information Economy: Harnessing Information and Communications Technologies in Botswana, Mauritania and Tanzania. In: L. Fox and R. Liebenthal, eds. 2006. *Attacking Africa's Poverty: Experience from the Ground.* Washington, D.C.: World Bank. Chapter 147, pp.177.

Oluwatayo, I. B., 2014. Techno-driven Financial Inclusion in Rural Nigeria: Challenges and Opportunities for Pro-poor Service Delivery. *Banks and Bank Systems*, 9 (2), pp. 95-99.

Omole, D.W., 2013. Harnessing Information Communication Technologies (ICTs) to Address Urban Poverty: Emerging Open Policy Lessons for the Emerging Open Economy. *Information Technology for Development,* 19 (1), pp. 86-96.

Omwansa, T., 2009. *M-PESA: Progress and Prospects.* Mobile World Congress. Available at: <http://www.strathmore.edu/pdf/innov-gsma-omwansa.pdf> [Accessed 6 March 2013].

Orlikowski, W. J., 1991. Studying Information Technology in Organisations: Research Approaches and Assumptions. *Information Systems Research*, 2 (1), pp. 1-28.

Orlikowski, W.J., 1992. The Duality of Technology: Rethinking the Concept of Technology in Organisations. *Organization Science*, 3 (3), pp. 398-427.

Orlikowski, W.J., 1993. CASE Tools as Organizational Change: Investigating Incremental and Radical Changes in Systems Development. *MIS Quarterly*, 17, pp. 309-340.

Orlikowski, W.J., 2000. Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. *Organization Science*, 11 (4), pp. 404-428.

Orlikowski, W.J., 2007. Sociomaterial Practices: Exploring Technology at Work. *Organisation Studies*, 28 (9), pp. 1435-1448.

Orlikowski, W.J., 2010. The Socio-materiality of Organisational Life: Considering Technology in Management Research. *Cambridge Journal of Economics*, 34 (1), pp. 125-141.

Orlikowski, W.J. and Iacono, C.S., 2001. 'Desperately Seeking the" IT" in IT Research-A Call to Theorizing the IT Artifact'. *Information Systems Research,* 12 (2), pp. 121-134.

Orlikowski, W.J and Baroudi, J.J., 1991. Studying Information Technology in Organisations: Research Approaches and Assumptions. *Information Systems Research,* 2 (1), pp.1-28.

Orlikowski, W.J and Robey, D., 1991. Information Technology and the Structuring of Organisations. *Information Systems Research*, 2 (2), pp.143-169.

Orlikowski, W.J and Scott, S.V., 2008. Sociomateriality: Challenging the Separation of Technology, Work and Organization. *The Academy of Management Annals*, 2 (1), pp. 433-474.

Oudshoorn, N. and Pinch, T., 2008. User-Technology Relationships: Some Recent Developments. In: E.J. Hackett, O. Amsterdamska, M. Lynch and J. Wajcman, eds. *The Handbook of Science and Technology Studies*. Third Edition. London: The MIT Press, pp. 541-565.

Pakistan Bureau of Statistics, 2013. *Population by Province/Region.* Islamabad: Government of Pakistan. Available at: http://www.pbs.gov.pk/content/population-census

Pakistan Bureau of Statistics, 2013. *Pakistan Social Living Measurement Standards*. Islamabad: Government of Pakistan. Available at: http://www.pbs.gov.pk/content/pakistan-social-and-living-standards-measurement

Pakistan Economic Survey, 2014/15. *Highlights*. [pdf]. Islamabad: Economic Adviser's Wing. Finance Division, Government of Pakistan. Available at: http://www.finance.gov.pk/survey/chapters_15/Highlights.pdf

Pakistan Microfinance Network, 2013. *Pakistan Microfinance Review: Annual Assessment of the Microfinance Industry* [online]. Islamabad, Pakistan: PMN.

Pathirage, C. P., Amaratunga, R. D. G and Haigh, R. P., 2008. The Role of Philosophical Context in the Development of Theory: Towards Methodological Pluralism. *The Built and Human Environment Review*, 1 (1).

Patton, M. Q., 2001. *Qualitative Evaluation and Research Methods*. 3rd edition. Thousand Oaks, CA: Sage.

Paxson, C. and Schady, N., 2007. *Does Money Matter? The Effects of Cash Transfers on Child Health and Development in Rural Ecuador*. Policy Research Working Paper Series 4226 [online]. World Bank.

Perrolle, J.A., 1986. Intellectual Assembly Lines: The Rationalization of Managerial, Professional and Technical Work. *Computers and Social Sciences,* (2), pp. 111-121.

Pettigrew, A.M., 1985. Contextualist Research: A Natural Way to Link Theory and Practice. In: E.E. Lawler, ed. *Doing Research that is Useful in Theory and Practice.* San Francisco: Jossey Bass, pp. 222-248.

Pickens, M, Porteous, D. and Rotman, S., 2009. *Banking the Poor via G2P Payments.* CGAP Focus Note 58. Washington, D.C. Available at: http://www.cgap.org/publications/banking-poor-g2p-payments

Pinch, T.J. and Bijker, W.E., 1984. The Social Construction of Facts and Artifacts: or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. *Social Studies of Science,* (14), pp. 399-441.

Pinch, T.J, and Bijker, W.E., 1987. The Social Construction of Facts and Artifacts. In: W.E. Bijker, T.P. Hughes and T. Pinch, ed. 1987. *The Social Construction of Technological Systems.* Cambridge, MA: MIT Press, pp.17-50.

Pinsonneault, A., and Kraemer, K. L., 2002. Exploring the Role of Information Technology in Organizational Downsizing. *Organization Science,* 13 (2), pp. 191-208.

Plyler, M., Haas, S. and Nagarajan, G., 2010. *Community-Level Economic Effects of M-PESA in Kenya: Initial Findings.* Assessing the Impact of Innovation Grants in Financial Services Project. Maryland, College Park, MD: IRIS Center.

Poole, M.S. and DeSanctis, G., 1989. Use of Group Decision Support Systems as an Appropriation Process. *Proceedings of the Hawaii International Conference on Information Systems,* Hawaii, 4, pp. 149-157.

Poole, M.S. and DeSanctis, G., 1990. Understanding the Use of Group Decision Support Systems: The Theory of Adaptive Structuration. *Organizations and Communication Technology,* 173, pp.191.

Poole, M. S., and DeSanctis, G., 2004. Structuration Theory in Information Systems Research: Methods and Controversies. In: *Handbook of Information Systems Research*, M. E. Whitman and A. Woszcynski (eds). Hershey, PA: Idea Group, pp. 206-249.

Porteous, D., 2006. *The Enabling Environment for Mobile Banking in Africa.* London, UK: Department for International Development.

Porteous, D., 2007. *Just How Transformational is M-banking.* Bankable Frontier Associates LLC: FinMark Trust.

Porteous, D., 2012. *Is there is a Business Case for Offering Services to G2P Recipients?* CGAP [blog] Washington, D.C. Available at: http://www.cgap.org/blog/there-business-case-offering-services-g2p-recipients

Powell, W.W., 1987. Review, Essay: Explaining Technological Change. *American Journal of Sociology,* 93 (1), pp.185-197.

Pozzebon, M., and Pinsonneault, A., 2005. Challenges in Conducting Empirical Work Using Structuration Theory: Learning from IT Research. *Organization Studies,* 26 (9), pp.1353-1376.

Prahalad, C.K., 2004. The Blinders of Dominant Logic. *Long Range Planning,* 37 (2), pp.171-179.

Prahalad, C.K., 2010. *The Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits*. 3rd edition. New Jersey: Prentice Hall.

Prakash, A., 2007. Importance of Development Context in ICT4D Projects: A Study of Computerization of Land Records in India. *Information Technology and People,* 20 (3), pp. 262-281.

Püschel, J., Mazzon, J.A. and Hernandez, J.M.C., 2010. Mobile Banking: Proposition of an Integrated Adoption Intention Framework. *International Journal of Bank Marketing,* 28 (5), pp. 389-409.

Qureshi, S., 2005. How Does Information Technology Effect Development? Integrating Theory and Practice into a Process Model. *Eleventh Americas Conference on Information Systems*, AMCIS 2005, Omaha, Nebraska, USA, August 11-14.

Qureshi, S., 2010. Extending Human Capabilities through Information Technology Applications and Infrastructures. *Information Technology for Development*, 16 (1), pp. 1-3.

Qureshi, S. ed., 2011. Information Technology for Development in Expanding Capabilities *Information Technology for Development*, 17 (2), pp. 91-94.

Qureshi, S. ed., 2014a. Theory to Inform Practice or to Build Theory: Are Emerging Economies in a Cyclical Relationship with their Information and Communication Technologies? *Information Technology for Development,* (20) 4, pp. 293-295.

Qureshi, S. ed., 2014b. Overcoming Technological Determinism in Understanding the Digital Divide: Where Do We Go From Here? *Information Technology for Development,* (20) 3, pp. 215-217.

Qureshi, S., Kamal, S., and Keen, P., 2009. Knowledge Networking to Overcome the Digital Divide. In: W.R. King, ed. *Knowledge Management and Organisational Learning*. Annals of Information Systems 4. Springer Science and Business Media, LLC, p. 215.

Rahul De' and Ratan, A.L., 2009. Whose Gain is it Anyway? Structurational Perspectives on Deploying ICTs for Development in India's Microfinance Sector. *Information Technology for Development,* 15 (4), pp. 259-282.

Raiti, G.C., 2006. The Lost Sheep of ICT4D Literature. *Information Technologies and International Development,* 3 (4), pp. 1-7.

Rangaswamy, N. and Nair, S., 2010. The Mobile Phone Store Ecology in a Mumbai Slum Community: Hybrid Networks for Enterprise. *Information Technologies and International Development,* 6 (3), pp. 51-65.

Ray, M. 1993. 'Introduction: What is the New Paradigm in Business?' in *The New Paradigm in Business*, G.P. Putnam's Sons, New York.

Reason, P. and Rowan, J. ed., 1981. *Human Inquiry.* London: John Wiley.

Reinharz, S., 1997. Who am I? The Need for a Variety of Selves in the Field. In: R. Hertz, ed. 1997. *Reflexivity and Voice.* Thousand Oaks, CA: Sage, pp. 3-20.

Rimenyi, D., Williams, B., Money, A. and Swartz, E., 1998. *Doing Research in Business and Management.* Thousand Oaks, CA: Sage.

Riquelme, H.E. and Rios, R.E., 2010. The Moderating Effect of Gender in the Adoption of Mobile Banking. *International Journal of Bank Marketing,* 28 (5), pp. 328-341.

Robey, D. and Boudreau, M.C., 1999. Accounting for Contradictory Organizational Consequences of IT. *Information Systems Research,* 10 (2), p. 168.

Robeyns, I., 2003. Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities. *Feminist Economics*, 9 (3), pp. 61-92.

Robeyns, I., 2005. The Capability Approach: A Theoretical Survey. *Journal of Human Development,* 6 (1), pp. 93-114.

Rogers, E.M., 2004. A Prospective and Retrospective Look at the Diffusion Model. *Journal of Health Communication,* 9 (S1), pp.13-19.

Rosen, M., 1991. Coming to Terms with the Field: Understanding and Doing Organizational Ethnography. *Journal of Management Studies,* 28 (1), pp.1-24.

Rotman, S., 2011. *So Where Are We in the Link Between G2P and Financial Services?* CGAP [blog]. Washington, D.C. Available: http://www.cgap.org/blog/so-where-are-we-link-between-g2p-and-financial-services

Rotman, S., 2013. *Technology is not a Barrier for Very Poor G2P Recipients.* CGAP [blog]. Washington, D.C. Available: http://www.cgap.org/blog/technology-not-actually-barrier-very-poor-g2p-recipients.

Rotman, S., 2014. *Payments and Transactions.* South-South Learning Forum. Washington, D.C.: World Bank [pdf]. Available at: http://www.worldbank.org/content/dam/Worldbank/Event/socialprotection/Payments_and_Transactions_Session_Packet.pdf

Rotman, S., Kumar, K. and Parada, M., 2013. *An Overview of the G2P Payments Sector in Pakistan.* CGAP. Washington, D.C.: World Bank.

Rowan, J., 1981. 'The Leaves of Spring' by Aaron Esterson: An Appreciation. In: P. Reason and J. Rowan, eds. 1981. *Human Inquiry: A Sourcebook of New Paradigm Inquiry.* New York: Wiley, pp.239-250.

Sachs, J., 2005. *The End of Poverty: How We Can Make IT Happen In Our Lifetime.* London: Penguin Books.

Sahay, S. and Avgerou, C., 2002. Introducing the Special Issue on Information and Communication Technologies in Developing Countries. *The Information Society*, 18 (2), pp.73-76.

Sahrawat, R., 2010. *Financial Inclusion from Obligation to Opportunity.* The TATA Business Excellence Model- 2010 Manual. TATA Group. Hyderabad, India: Tata Consultancy Service Ltd.

Saith, A., 2006. From Universal Values to Millennium Development Goals: Lost in Translation. *Development and Change*, 37 (6), pp. 1167-1199.

Sambasivan, N., Cutrell, E., Toyama, K. and Nardi, B., 2010. Intermediated Technology Use in Developing Communities. *Proceedings of the 28th International Conference Extended Abstracts on Human Factors in Computing Systems*. Atlanta: ACM, pp. 2583-2592.

Samson, M., 2009. *'Social Cash Transfers and Pro-Poor Growth' in Promoting Pro-Poor Growth: Social Protection.* Paris: Organisation for Economic Co-operation and Development (OECD), pp. 43-59.

Saunders, M., Lewis, P. and Thornhill, A., 2009. *Research Methods for Business Students.* 5th edition. London: Prentice Hall.

Schatzki, T., 2002. *The Site of the Social: A Philosophical Exploration of the Constitution of Social Life and Change*. University Park, PA: Pennsylvania State University Press.

Schutz, A., 1972. *The Phenomenology of the Social World.* London: Heinemann.

Scott, D. and Usher, R., 1996. *Researching Education: Data, Methods and Theory in Educational Practice.* London: Continuum International.

Scott, S.V. and Orlikowski, W.J., 2014. Entanglements in Practice: Performing Anonymity through Social Media. *MIS Quarterly*, 38 (3), 873-893.

Sen, A., 1985. Well-being, Agency and Freedom: 'The Dewey Lectures 1984'. *The Journal of Philosophy*, Vol. LXXXII No. 4, pp.169-221.

Sen, A., 1987. *The Standard of Living*. Cambridge: Cambridge University Press.

Sen, A., 1992. *Inequality Re-examined*. Oxford: Oxford University Press.

Sen, A., 1999. *Development as Freedom.* Oxford: Oxford University Press.

Sen, A., 2000. *A Decade of Human Development. Journal of Human Development*, 1 (1), pp. 17-23.

Sen, A., 2010. The Mobile and the World. *Information Technologies and International Development*, (Special Edition) 6, pp.1-3.

Shwandt, T.A., 2007. *The Sage Dictionary of Qualitative Inquiry.* Thousand Oaks, CA: Sage.

Singh, D. A. B., and Tandon, P., 2011. Financial Inclusion in India: An Analysis. *International Journal of Marketing, Financial Services and Management Research*, 1 (6), pp. 41-54.

Sivapragasam, N., Agüero, A. and de Silva, H., 2011. The Potential of Mobile Remittances for the Bottom of the Pyramid: Findings from Emerging Asia. *Info*, 13 (3), pp. 91-109.

Smith, M.L., Spence, R. and Rashid, A.T., 2011. Mobile Phones and Expanding Human Capabilities. *Information Technologies and International Development*, 7 (3), pp.77-88.

Smith, G., MacAuslan, I., Butters, S. and Trommé, M., 2011. *New Technologies in Cash Transfer Programming and Humanitarian Assistance.* Report Commissioned by the Cash Learning Partnership (CaLP): Oxford.

Spence, M., 2010. Some Thoughts on ICT and Growth. *Information Technologies and International Development* (Special Edition), 6, pp.5-9.

Spence, N., 2010. Gender, ICTs, Human Development, and Prosperity. *Information Technologies and International Development* (Special Edition), 6, pp. 69-73.

Spence, R. and Smith, M.L., 2010. ICT, Development and Poverty Reduction: Five Emerging Stories. *Information Technologies and International Development* (Special Edition), 6, pp. 11-17.

Stake, R.E., 1995. *The Art of Case Study Research*. Thousand Oaks, CA: Sage.

Stake, R.E., 2005. Qualitative Case Studies. In: N.K. Denzin & Y.S. Lincoln, eds. *The Sage Handbook of Qualitative Research, 3rd Edition.* Thousand Oaks, CA: Sage.

Strauss, A. and Corbin, J. 1999. *Basics of Qualitative Research.* 2nd edition. Thousand Oaks, CA: Sage.

Tapscott, D. and Williams, A.D., 2006. *Wikinomics: How Mass Collaboration Changes Everything.* London: Penguin.

Tarafdar, M., Singh, R. and Anekal, P., 2013. Impact of ICT-enabled Product and Process Innovations at the Bottom of the Pyramid: A Market Separations Perspective. *Journal of Information Technology*, 28, pp. 279-295.

Tashakkori, A. and Teddlie, C., 1998. *Mixed Methodology: Combining the Qualitative and Quantitative Approaches.* Thousand Oaks, CA: Sage.

Taylor, G.W. and Ussher, J.M., 2001. Making Sense of S&M: A Discourse Analytic Account. *Sexualities*, 4 (3), pp. 293-314.

Tellis, W., 1997. *Introduction to Case Study. The Qualitative Report*. 3 (2) [Online]. Available at: <http://www.nova.edu/ssss/QR/QR3-2/tellis1.html> [Accessed June, 2014].

Thompson, M., 2008. ICT and Development Studies: Towards Development 2.0. *Journal of International Development*, 20 (6), pp. 821-835.

Thompson, M. and Walsham, G., 2010. ICT Research in Africa: Need for a Strategic Developmental Focus. *Information Technology for Development*, 16 (2), pp.112-127.

Tobbin, P., 2012. Towards a Model of Adoption in Mobile Banking by the Unbanked: A Qualitative Study. *Info,* 14 (5), pp.74-88.

United Nations, 2007. *Press Conference on Best Practice for Financial Inclusion*. UN Department of Public Information, 14th September. UN Department of Public Information, 14 September.

UNDP, 2001. *United Nations Human Development Report. Making New Technologies Work for Human Development*. United Nations Development Programme (UNDP), New York: Oxford University Press. Available at: http://hdr.undp.org/sites/default/files/reports/262/hdr_2001_en.pdf

UNDP, 2013. *United Nations Human Development Report. The Rise of the South: Human Progress in a Diverse World.* United Nations Development Programme (UNDP),

New York: Oxford University Press. Available at: http://hdr.undp.org/sites/default/files/Country-Profiles/PAK.pdf

Van Dijik, J., 2006. Digital Divide Research Achievements and Shortcomings. *Poetics*, 44 (4-5), pp. 221-235.

Van Dijik, J., 2006. *The Network Society: Social Aspects of New Media*. Thousand Oaks, CA: Sage.

Venkatesh, V. and Davis, F.D., 2000. A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46 (2), pp.186-204.

Vincent, K. and Cull, T., 2011. Cell phones, Electronic Delivery Systems and Social Cash Transfers: Recent Evidence and Experiences from Africa. *International Social Security Review, 64* (1), pp. 37-51.

Wade, R.H., 2002. Bridging the Digital Divide: New Route to Development or New Form of Dependency? *Global Governance,* 8 (4), pp. 443-466.

Wade, R.H., 2004. Is Globalization Reducing Poverty and Inequality? *World Development*, 32 (4), pp. 567-589.

Walsham, G., 1993. *Interpreting Information Systems in Organisations.* Chichester: John Wiley.

Walsham, G., 1995. Interpretive Case Studies in IS Research: Nature and Method. *European Journal of Information Systems,* 4 (2), pp.74-81.

Walsham, G., 1995. The Emergence of Interpretivism in IS Research. *Information Systems Research,* 6 (4), pp. 376-394.

Walsham, G., 2002. Cross-cultural Software Production and Use: A Structurational Analysis. *MIS Quarterly*, 26 (4), pp. 359-380.

Walsham, G., 2006. Doing Interpretive Research. *European Journal of Information Systems,* 15, pp. 320-330.

Walsham, G. and Han, C.K., 1991. Structuration Theory and Information Systems Research. *Journal of Applied Systems Analysis*, 17, pp. 77-85.

Walsham, G., and Han, C.K., 1993. Information Systems Strategy Formation and Implementation: The Case of a Central Government Agency. *Accounting, Management and Information Technologies,* 3 (3), pp. 191-209.

Walsham, G. and Robey, D. and Sahay, S., 2007. Foreword: Special Issue on Information Systems in Developing Countries. *MIS Quarterly*, 31 (2), pp. 317-327.

Walsham, G. and Sahay, S., 1999. GIS for District-level Administration in India: Problems and Opportunities. *MIS Quarterly*, 23 (1), pp. 39-65.

Walsham, G. and Sahay, S., 2006. Research on Information Systems in Developing Countries: Current Landscape and Future Prospects. *Information Technology for Development*, 12 (1), pp.7-24.

Wessels, L. and Drennan, J., 2010. An Investigation of Consumer Acceptance of M-banking. *International Journal of Bank Marketing*, 28 (7), pp. 547-568.

Wilkinson, S., 2004. *Focus Group Research. In Qualitative Research: Theory, Method and Practice.* London: Sage.

World Bank, 1998. *World Development Report 1998/1999: Knowledge for Development*. New York: Oxford University Press. World Bank. Available at: https://openknowledge.worldbank.org/handle/10986/5981

World Bank, 2001. *World Development Report 2000/2001: Attacking Poverty*. New York: Oxford University Press. World Bank. Available at: https://openknowledge.worldbank.org/handle/10986/11856

World Bank, 2009. *The Case for Financial Literacy in Developing Countries. Promoting Access to Finance by Empowering Consumers.* Washington, D.C. Available at: https://www.globalbrigades.org/media/Financial_Literacy.pdf

World Bank, 2013. *Brief on Social Protection in Pakistan*. [online]. Available at: www.worldbank.org/en/country/Pakistan/brief/social-protection-in-pakistan

World Bank, 2014. *Data on Mobile Cellular Subscriptions.* [online]. Available at: http://data.worldbank.org/indicator/

Wu, Y., 2007. Implications of Case Study Research in Information Systems in Supply Chain Management. 16th EDAMBA Summer Academy, Soreze, France, July 2007.

Yin, R.K., 1994. *Case Study Research: Design and Methods*. 2nd edition. Thousand Oaks, CA: Sage.

Yin, R. K., 2003. *Case Study Research: Design and Methods.* 3rd edition. Applied Social Science Method Series. Thousand Oaks, CA: Sage.

Yin, R.K., 2009. *Case Study Research: Design and Methods.* 5th edition. Thousand Oaks, CA: Sage.

Yin, R.K., 2010. 'Analytic Generalization'. In: A.J. Mills, G. Durepos and E. Wiebe, eds. *Encyclopedia of Case Study Research.* Thousand Oaks, CA: Sage, pp. 21-23.

Zheng, Y., 2009. Different Spaces For E-development: What Can We Learn from the Capability Approach? *Information Technology for Development*, 15 (2), pp. 66-82.

Zheng, Y. and Walsham, G., 2008. Inequality of What? Social Exclusion in the E-society as Capability Deprivation. *Information Technology and People,* 21 (3), pp. 222-243.

Zhou, T., Lu, Y. and Wang, B., 2010. Integrating TTF and UTAUT to Explain Mobile Banking User Adoption. *Computers in Human Behavior,* 26 (4), pp. 760-767.

Zimmerman, J. and Rotman, S., 2011. From Protection to Inclusion: Shifting to Cashless Payments. CGAP [blog] Washington, D.C. Available at: http://www.cgap.org/blog/protection-inclusion-shifting-cashless-payments

Zimmerman, J., and Holmes, J., 2012. The G2P Opportunity: Five Reasons Why Now is the Time to Leverage Social Protection to Enable Financial Inclusion and Savings among the Poorest. *Enterprise Development and Microfinance*, *23* (1) pp. 38-53.

Zuboff, S., 1988. *In the Age of the Smart Machine.* New York: Basic Books.

Zucker, L.G., 1991. The Role of Institutionalization in Cultural Persistence. In: W.W. Powell and P.J. DiMaggio, eds. *The New Institutionalism in Organizational Analysis*. Chicago: The University of Chicago Press, pp. 83-107.

Appendices

Appendix 1: Participant Information Sheet

Section A: The Research Project

Title of the Project

Mobile Banking for Financial Inclusion in Pakistan

Purpose and Value of the Study

The purpose of the study is to explore m-banking innovation for disbursing/ receiving monthly social cash, or government-to-person (G2P) payments in the Benazir Income Support Programme (BISP) in Pakistan. The researcher will analyse m-banking from both BISP managers' as well as women beneficiaries' perspectives. Hence, the researcher will seek to investigate why and how mobile phones were introduced in the design of BISP, as an electronic delivery channel, for disbursing mobile-based G2P payments to poor women. In particularly, what were the key success factors and hurdles faced by managers in the implementation and use of m-banking, and how women beneficiaries' perceived its use for receiving payments. Also, how access to social cash-via mobile phones- connects women to the banking system for undertaking financial transactions for financial inclusion in households. The researcher will further attempt to analyse how m-banking has socio-economic implications on household properties for reducing poverty in their households.

The study will help policy makers, practitioner's and social cash managers by examining m-banking practices in the Government sector for disbursing digitised government-to-person (G2P) payments. Based on the findings, the researcher will propose practical recommendations that may contribute towards practitioner's knowledge. Hence, the findings may have implications for

organisations, such as government social cash programmes, m-banking designers (mobile operators/banks), NGOs/donors of the programme. Also, it may seek to address any technology design gaps that may modify future policies and tailor business models in designing more user-friendly services to increase financial access and outreach of m-banking services for beneficiaries in the study.

Invitation to Participate

The researcher invites the individual to participate in the study to provide interviews, or engage in focus group discussions that may be recorded. The researcher will ensure that the data collected from all participants complies with the Data Protection Act (1998). All participants will be informed at the outset of what personal data, if any, will be required from them, what the data will be used for, and how will it be stored. The participation of the individual will allow the researcher to complete the research study.

Who is organising the research?

The research is being organised by the researcher, Atika Ahmad Kemal, under the supervision of her supervisor, Dr. Lin Yan. Atika is currently a PhD student and an Associate Lecturer at the Lord Ashcroft International Business School at Anglia Ruskin University, Chelmsford, UK.

What will happen to the results of the study?

The results of the study will be published in the researchers PhD thesis, journal articles in domestic/international research journals and conference proceedings. Also, the participant needs to be aware that in some instances the results may be shared or disseminated to a third party, but not without their consent.

Source of funding for the study

The research is entirely funded by Anglia Ruskin University, UK.

Contacts for further information

For further information, please feel free to email the researcher at:

Researcher: atika.kemal@pgr.anglia.ac.uk

Section B: Participation in the Research Project

Why has the Participant been invited to take part?

The participant has been invited to take part in the study and become part of the research sample to be interviewed. It is hoped that the participant will provide useful information that will help the researcher to address the research questions in the study. Prior to all interviews, the participant will be given the Participant Information Sheet (PIS) that contains information regarding the nature of the study.

Whether the Participant can refuse to take part and withdraw at any time?

Yes. The researcher would like to clarify that the participant has the right to refuse to take part in the research, at any time, before or during the study. Also, the participant can withdraw from the research at any time by informing the organisation, or researcher directly or indirectly. If the participant withdraws, he/she will be asked if the researcher can still continue using the data. Also, the participant will be reassured that disclosing any information to the researcher will not affect his/her relationship with their organisation, or current place of work.

What will happen if they agree to take part?

The researcher will ensure that participants are not coerced into taking part in the study. If the participant agrees to take part, he/she will be informed that the researcher has taken ethical approval from Anglia Ruskin University, UK. The participant will be requested to give his/her informed consent by signing the attached Participant Consent Form (PCF) that they may keep for personal records. In case the participant cannot read or write, or due to traditional and cultural reasons, the Participation Information Sheet will be read out to the participant in the local language (Urdu) and verbal consent will be obtained and documented in the PCF in front of a witness (programme official). Agreement to participate in the study should not compromise with the participant's legal rights should something go wrong.

After the participant gives consent, he/she will be briefed about the research design and process. It will be made very clear from the onset of the research what will be expected from them and what methods will be used to collect the data. The participants will be interviewed according to an interview schedule that may last up to 60-90 minutes. All participants will be asked if they want the interview to be recorded and whether the researcher may take pictures to be used only for the thesis.

Whether there are any risks involved (e.g. side effects from taking part) and if so what will be done to ensure their wellbeing/safety?

No. There are no risks from taking part in the research study.

Participants will be requested not to disclose any personal or sensitive information relating to themselves, or their organisation/household which may be detrimental to the organisation/ individual's image or reputation.

The researcher will comply with the ethical code of conduct that is mandatory according to UK Legislation. Also, the researcher will ensure that the research is compliant to local laws in Pakistan to safeguard the integrity and well-being of all participants.

Whether there are any special precautions Participants must take before, during or after taking part in the study?

There are no precautions for the participant to undertake before, during or after the study.

What will happen to any information/data/samples that are collected from the Participant?

The data or information collected from participants through interviews/focus groups will be electronically recorded and/or written down in case notes. After the interview, data will be translated and transcribed and held by the researcher only. The data stored in electronic format on computers, laptops, mobile phones will be password protected. All paper documents will be stored securely. The researcher will only have access to the data that will be kept in an anonymised format.

In future, if necessary, the researcher may request the organisation to provide access to more participants for conducting further interviews. However, the researcher will only possess ownership of the data and the right to publish the findings under copyright laws.

How will the Participant's participation be kept confidential in the project?

Every attempt will be made to keep the names of all participants anonymous conforming to UK Data Protection Act (1998). Also, participants will be asked whether they want to be quoted in the thesis anonymously. However, participants must be aware that while every effort will be made to remove all identifying information, in some instances, participants may be identified through their quotes. The data or information collected will only be used for the purpose of the research study- for articles published in academic research journals or for presentations at conferences. The participant needs to be aware that while the research outcomes may be

disseminated to third party organisations, only by their permission, it will not disclose any sensitive or personal information that will remain confidential.

Whether there are any benefits from taking part?

There are no direct benefits from participating in the research. However, the results of the study may be beneficial for other stakeholders- government or financial organisations, mobile operators and NGOs who may benefit from the research outcomes.

YOU WILL BE GIVEN A COPY OF THIS TO KEEP,
TOGETHER WITH A COPY OF YOUR CONSENT FORM

Anglia Ruskin University
Cambridge Chelmsford Peterborough

Appendix 2: Participant Consent Form

Name of Participant:

Title of the Project: Mobile Banking for Financial Inclusion in Pakistan

Main Investigator: Atika Ahmad Kemal
atika.kemal@student.anglia.ac.uk

Member of the research team: Dr. Lin Yan
lin.yan@anglia.ac.uk

1. I agree to take part in the above research. I have read the Participant Information Sheet which is attached with this form. I understand what my role will be in this research and all my questions have been answered to my satisfaction.

2. I understand that I am free to withdraw from the research, at any time, for any reason and without prejudice.

3. I have been informed that the confidentiality of the information that I provide will be safeguarded.

4. I am free to ask any questions, at any time, before and during the study.

5. I have been provided with a copy of this form and the Participant Information Sheet.

6. I agree to give verbal consent in exceptional circumstances; if I am unable to read this form.

Data Protection: I agree to the University[23] processing personal data which I have supplied. I agree to the processing of such data for any purposes connected with the Research Project as outlined to me. The research will also abide to the local legislation concerning any Data Protection Laws in Pakistan.

Name of Participant

(print)…….Signed……...….Date……

Name of Witness

(print)……..Signed……..….Date……

YOU WILL BE GIVEN A COPY OF THIS FORM TO KEEP

I WISH TO WITHDRAW FROM THIS STUDY

Signed: _____ Date: _____

If you wish to withdraw from the research, please complete the form below and return to the main investigator named above.

[23] "The University" includes Anglia Ruskin University and its partner colleges

Appendix 3: Interview Guide for Data Collection

BISP Staff

Name: **Position:**

Department:

1) What are the short and long term objectives of the BISP programme?

2) Who is funding the program?

3) Why was m-banking designed into the programme and what factors influenced its design for transferring social cash?

4) What are the key success factors of m-banking for delivering G2P payments?

5) What challenges do you face while implementing and using m-banking?

6) In your opinion, what are the benefits/problems faced by women beneficiaries who use m-banking?

7) How are poor women using the money they receive through digital channels?

8) Do you think m-banking will lead to financial inclusion? How will it affect poverty?

9) In which regions has m-banking been implemented?

10) How have the banks been selected and how expensive is it for the government to disburse cash through mobile phones?

Women Beneficiaries

Name:	**Age:**
Education:	**Occupation:**
Income:	**No. of family members:**
Family Structure:	**How long with BISP?**
Ownership of mobile:	**Location:**

1) What are the benefits and difficulties you face while using mobile phones to receive social cash?

2) How have mobile payments helped you economically?

3) What are the social effects of using mobile phones?

4) Can you get loans through m-banking in the programme?

5) How have mobile payments affected education/ health in your household?

6) Have mobile payments helped enhance your skills/ employment prospects in any way?

7) Do you know that you are linked with a bank account?

8) Are you using m-banking for money transfers, depositing savings or insurance?

9) Have you bought any machinery, livestock, or invested in some physical asset?

Financial Institutions (Banks)

Name: **Position:**

Department: **Company:**

1) What was the role of banks in the design of m-banking for disbursing G2P payments to beneficiaries in the Benazir Income Support Program?

2) Why has BISP chosen your bank?

3) What is the business case for the bank?

4) How many beneficiaries are being disbursed G2P payments through the bank?

5) What technologies are available for disbursing payments electronically?

6) For delivering mobile payments, which telecom has the bank partnered with and under what model?

7) What are the advantages and challenges of using m-banking in the G2P sector?

8) What type of accounts do beneficiaries have and can they undertake other financial transactions?

9) Do you think that m-banking has contributed to financial inclusion?

10) What is the future role of banks in the BISP programme?

Mobile Banking Service Providers

Name: **Position:**

Department: **Company:**

1) What is the role of the mobile operator in designing m-banking in BISP? How is it involved in the transfer of G2P payments?

2) How many beneficiaries are receiving payments through m-banking and in which localities?

3) How has m-banking helped/constrained beneficiaries to receive G2P payments?

4) How effective has m-banking been in the delivery of social cash?

5) How has the design of m-banking affected usage by women beneficiaries?

6) Who holds the mobile accounts of beneficiaries: bank or telecom? What is the m-banking model?

7) Does m-banking enable/constrain women to conduct other financial transactions through their mobile wallets such as money transfers, m-savings, or m-credit?

8) How has the State Bank of Pakistan and Pakistan Telecommunication Authority been supportive of m-banking in the BISP programme?

International Donor Agencies

Name: **Position:**

Department: **Organisation:**

1) What is donor's role in the BISP programme?

2) What was donor's influence in the shift to m-banking in the programme?

3) In your opinion, how has m-banking helped BISP and beneficiaries?

4) What do you think are the economic and social effects of m-banking on women beneficiaries?

5) How does m-banking contribute to social or financial inclusion?

6) Is there any significant change on the lives of poor women through the use of m-banking?

Appendix 4: Data from Case Notes

1) Data from Interviews with Women Beneficiaries

Concepts	**Level of Analysis**	**Themes**
Benefits (enabling) of m-banking	Individual	Receive notification of payment via SMS Convenience Full payments received Personal use- voice communication Partially read message Friendly and helpful agents Agent trust ID card issuance Secure payments Flexibility
Difficulties (constraints) of m-banking	Individual	Lack of technical/ financial literacy Inability to use mobile phones Handset lost or damaged Handset hijacked by others PIN issues/ lost/cannot read or enter SIM blocked/ lost Inability to read SMS Unaware of SMS SMS not received/ deleted accidentally Handset charging problems- electricity outage Poor coverage/ weak signal Cash not transferred Accounts blocked Incorrect mobile number was linked to account No payment received Mobile number not registered in name ID card lost/ misplaced High travelling costs/ inconvenient Group travel Dependency on family member/friend/neighbour

		Travel time- whole day spent No training provided. Agent has not given money
Economic benefits of mobile payments	Household	Supplements incomes Better food and nutrition Money spent on food/clothing/medicines Increased household welfare High education costs Money sometimes given to husband Some prosperity Self-sufficiency Grant money not enough No significant improvement in household welfare Dependency on payments More choice on spending No savings Cannot get loans, or deposit money
Social effects	Household	Empowerment High self-esteem Independence and freedom Feeling of liberation Financial security Psychological empowerment More respect and value Feels in-charge/control Greater decision-making role Sense of pride ID card establishes self-identity Social change Can vote Issue of power Husband feels threatened/ rejected Reduced financial pressure on husband Men as family heads
Skills Education	Individual Household	Limited skills- wants to acquire skills training. Secondary emergency

Health	Household	Not enough money for education Painful to see other children in school High health expenditures- no health insurance Loans for medical reasons/ surgery
Awareness of bank account	Individual	Not aware of bank accounts Waseela-Haq beneficiaries only know about bank accounts.
Loans/savings	Household	Not able to save Withdraw total amount at once Trying to save to buy sewing machine Keeps savings at home Cannot purchase any assets from savings

2) Data from Interviews with BISP Staff

Concepts	Level of Analysis	Themes
Objectives of BISP Short term	Organisational	Sustenance allowance Social safety net Cushions poverty Targets vulnerable groups Unconditional cash payments Poverty alleviation Objective targeting- poverty score card Proxy means testing 5.3 million beneficiaries 7.7 million households fall under 16.17 cut off score.
Long term objectives	Organisational	Provision of technical skills training Graduation from poverty Financial inclusion Poverty exit Capabilities development Education scheme Employment opportunities Micro-entrepreneurial skills
Funding of BISP	Organisational	Donor support Loans/ Grants World Bank/DFID/Asian Development Bank USAID 20-25% is from donor assistance 75% is from government funding
Transition to M-banking	Organisational	Shift from cash to m-banking channels Pakistan Post problems

		Pakistan Post officials demanded 'baksheesh' Pakistan post was inefficient and slow Pakistan post- 90 days to report payments Pakistan post did not resolve complaints Political pressure M-banking disbursed large volume of payments Reduced costs for BISP Ease and security of cash withdrawals Agent network has human element CNIC 'unique identifier' Visibility increased Direct communication channels Minimised human element Banking agent/franchise network is not extensive Human element is still there- agent Data shared with NADRA CNIC cards issued Branchless banking regulation in 2008 Minimised corruption and fraud Power issues
Key success factors of m-banking	Individual/ Organisational	Efficient and secure payments Transparency Accountability Visibility Full payments received Real-time systems Ease of reconciliation Direct link between provider and user No time lag or delays in payments Complaint redress mechanism Payment reaches original beneficiary Empowerment of women Social and political change Financial and digital literacy and awareness
Problems with m-banking for BISP	Individual/ Organisational	Handset funding issues No training given

		Duplicate SIMs were issued Poor distribution network of franchise/agents Human interface not completely eliminated Dependency on banks Weak footprint of agents in rural areas Political and security threats Terrorist funding/money laundering Mobile signal shutdown Greater safety controls required More flexible regulation required Fraud- agents pocketing the money No replacement phones provided Could not attain donor targets Poor design of software
Challenges of m-banking for beneficiaries	Individual	Mobile phones lost/damage Mobile phones sold SIM lost/blocked Payments not received Incorrect mobile phone linked with accounts Unskilled/illiterate women Can't read message or PIN No training provided Familial power issues Signal problems Name on ID card does not match name against mobile number
Economic and social effects of m-banking	Beneficiaries' Households/ Organisational	No savings Unawareness of bank accounts Social norms cannot be changed Psychological empowerment Re-interpretation of financial inclusion as social inclusion Limited financial inclusion Social and political change Social inclusion- transformative Financial freedoms Empowerment

		Increase in digital and financial learning curves Innovative practices Voice communications
Poverty exit	Households/ Organisational	Graduation strategies Capabilities development Enhance skills- vocational training Provision of loans Education Money should be provided on 'need' or 'pull' basis rather than 'push' Job opportunities Micro-entrepreneurial engagement
BISP's collaboration with banks	Organisational	Banks earn float 3-4% commission on funds transferred Limited purpose accounts Money is disbursed in 5-10 days Banks control payment information Not complete transparency achieved No saving accounts provided Proposition to convert accounts into basic level 0 accounts Selection of banks based on financial agreement and experience Reduce short term costs with partnership with banks Banks increase coverage of payments
Donor support and funding of BISP		Increase in funding for digital payments Design of poverty score for objective targeting Strengthening, enhancing and evaluation of BISP programme Institutional support for transparent payment mechanisms Target set by IMF not met Technical assistance provided

3) Data from Interviews with Bankers

Concepts	Level of Analysis	Themes
Role of banks in m-banking	Organisational	Pioneer of digital/ mobile payments Disbursal of digital payments Mobile phone funding Middlemen between BISP and beneficiaries Issuance of payment instruments- mobile phones, debit cards Establishment of agents for cash withdrawals Secure transfer of digital payments High set up costs Reduction in long term costs Increase outreach of beneficiaries with partnership with mobile operators
Selection Criteria for BISP		Submission of proposal Allocation of case-loads by BISP No initial evaluation No business financial models Rapid transition to m-banking platforms
Business case and challenges with m-banking	Organisational	Strict compliance to State Bank regulations Exemption given to BISP for KYC (know your customer) Economies of scale achieved through large volume of payments Commission received from government Profit made on float Funds transferred within 5 days 80-90% withdraw funds immediately Lower opportunity costs in long term High set up costs through exclusive agent channels
Coverage of beneficiaries	Organisational	Alfalah Bank- 1,200,000 beneficiaries with debit cards (total 1.2 million) in South Punjab

		Summit Bank- 50,000 m-banking beneficiaries in Rawalpindi/ Islamabad United Bank Limited- 60,000 m-banking beneficiaries and 1,000,000 with debit cards (total 1.6 million) in Layyah Habib Bank – 30,000 m-banking beneficiaries and 1,000,000 with debit cards (total 1.3 million) in Larkana Tameer Bank - 10,000 m-banking beneficiaries and 990,000 with debit cards (total 1 million) in Battagram Sindh Bank- 230,000 beneficiaries with debit cards in Sindh regions
Partnerships with mobile operators and technologies used	Organisational	Alfalah Bank- Smart cards and debit cards Summit Bank and Ufone- Mobile phones UBL and U-fone- Mobile phones and debit cards Habib Bank and Ufone- Mobile phones and debit cards Tameer Bank and Telenor- Mobile phones and debit cards Sindh Bank- Debit cards
Advantages of m-banking	Organisational/ Individual	Real-time information on payments Efficiency in reporting to BISP Cost-effective as cost of setting up branchless banking channel is 75% lower than that of branch Social inclusion Social change and empowerment Financial inclusion relates to financial awareness and learning Savings retained in accounts Steep rise in beneficiaries learning curves
Challenges of m-banking	Organisational/ Individual	Mobiles phones lost/stolen/ damaged/sold High cost of mobile phones provision Limited agent network No training/ education for mobile phone usage Low literacy levels create problems

		Handsets are passed on to some family member
Financial inclusion indicators	Organisational/ Individual	Limited learning as intermediaries are involved in cashing-out the payments Dependency on agent/ franchise retailer Increase in banked population Gradual understanding of mobile phone usage Increase in digital awareness and learning
Financial transactions-savings/loans/money transfers	Organisational/ Individual	Virtual accounts Conduit accounts limited to withdrawals only No interest on money left in accounts No loans/ insurance schemes No money transfers Money may be retained in accounts for savings
Future role of banks	Organisational	Convert virtual accounts into level 0 accounts Corporate social responsibility Increase financial inclusion indicators UBL- 70% of market share Increase collaboration with G2P programmes M-banking offers business opportunities Increase support for mobile payments
Regulatory support for banks	Organisational	Support from State Bank of Pakistan Comprehensive guidelines/regulations on branchless banking Monetary and non-monetary support/ incentives should be provided

4) Data from Interviews with Mobile Operator Staff

Categories	Level of Analysis	Themes
Role of mobile operators in BISP	Organisational	Provision of retail channel for banks Text message generated and sent for payment notification PIN provided for security Provision of SIM/ handsets IVR to notify payments Cash given out via franchise agents Customer support provided
M-banking outreach in districts	Organisational	Battagram: Telenor/Easypaisa- m-banking- 10,000 Larkana: Ufone and HBL- m-banking- 30,000 Layyah: Ufone and UBL - m-banking - 60,000 Islamabad and Rawalpindi: Ufone and Summit Bank- m-banking- 50,000
M-banking models for G2P payments	Organisational	Mobile operator-led model with Easypaisa Bank-led model in Islamabad and Rawalpindi and other regions. Telco-agnostic model Bank-led model had limited agent outreach Agents/franchise staff act as pay-points Agents and franchises offered limited financial outreach M-banking interface was not user friendly M-banking design should match capabilities of users M-banking design is more male friendly
Advantages of m-banking for mobile operators	Organisational	Mobile operators increases outreach of financial services Increase in revenue through voice communications

		Secure transactions covering a larger beneficiary base Expansion of customer market Cross sell other mobile communication services
Challenges of m-banking for users	Individual/ beneficiaries	Unable to read message/ PIN Cannot make phone calls Mobile phones given to other family members Agents helps to solve problems SIM cancelled if phone not used in 6 months Message shown to agents Different PIN for security purposes Weak signal issues Message not received Requests for duplication message M-banking design is not user friendly for illiterate users
Support from BISP	Organisational	Limited support from BISP M-banking limited to 5 districts Payments from BISP not regular M-banking not sustainable Mobile phones being replaced with debit cards Decrease in future revenues Mobile operator-led models in partnership with BISP will increase financial access
Role of Regulators in supporting m-banking State Bank of Pakistan (SBP) and Pakistan Telecommunication Authority (PTA)	Organisational	Security checks to minimise fraud Fraudulent agents are punished Money laundering concerns Branchless banking regulations provide the enabling environment PTA shuts down services due to security threats Regulators' policies favour banks More support for flexible m-banking models

5) Data from Interviews with International Donor Staff

Concepts	Units of Analysis	Themes
Donor's role with BISP	Organisational	Technical and financial support for BISP Design of the poverty score card for objective targeting Institutional support Assistance for implementing digital/ mobile payment platforms Evaluating payment channels Increased funding for education schemes
Donor's objectives	Organisational	Establishment of national targeting system- poverty score card Strengthening operations for BISP Enhancing safety net management Accountability and evaluation of BISP Transparent safety net program Empowerment of women Reduction in poverty Meet Millennium Development Goals (MDGs) targets by 2015 Reduce gender disparity Improve quality and governance Promotion of financial literacy
Support for m-banking	Organisational	International reconciliation M-banking not cost effective- handset funding issues Transparency of payments as main objective Platform for financial inclusion Efficiency and security in delivering payments Support for digitised cash flows (G2P)
Evaluation of BISP	Organisational	Transparency achieved through digital channels

		Institutional accountability and strengthening Reduction in corruption Targeting of deserving beneficiaries Grievance module is online and operational Beneficiaries grievances are efficiently addressed Condition of ID cards prevents BISP from attaining poverty alleviation targets
Effects of m-banking on beneficiaries' livelihoods	Individual/Organisational	Empowerment of women CNIC card establishes personal and state identity State has recognised them as citizens Improved household welfare Sense of pride and confidence Social and political change Financial inclusion- secondary objective Financial inclusion is limited
Future support for BISP	Organisational	Continue support till 2020 BISP management values development efforts Partners for institutional strengthening Progressive outlook on BISP so seek advice and feedback Support for digital innovation Increase financial support based on evaluation

6) Data from Focus Group Interviews with Women Beneficiaries

Concepts	Level of Analysis	Themes
Mobile phones-constraining	Individual	Cannot travel alone for cashing out Group travel High socio-economic costs for receiving money Don't know how to read text/PIN No training provided on mobile phone usage Help for cashing-out required from family/agent/friend M-banking is complicated Handset charging problems with electricity outages Signal problems Agent fraud SIM issues
Mobile phones- enabling	Individual	Allowed to leave the house for collecting payments Secure and flexible payments Full payment received Convenient Voice communications- keep in touch with family
Economic effects of m-banking	Household	Purchase of food, clothes, medicines Better nutrition and health Savings not possible Dependency on grants Payment amount is inadequate Difficult to cover hospital expenses/ doctor's fee Unable to afford education for children Painful to see other children in school Standard of living has improved G2P payments should continue in future

		Increase grant amount No loans offered Unaware of bank accounts Unable to purchase assets
Social effects of m-banking	Household	Payments are kept a secret Psychological empowerment Connected to banks Financial security and freedoms Financial independence ID card has given personal identity Political change Can vote Social change Increased value in household Household friction Family disputes Insecurity in husbands Hand over the money to husband Can access government services

Appendix 5: Publications and Conference Presentations

Kemal, A. and Yan, L. Mobile Banking in the G2P Sector for Financial Inclusion in Pakistan. *Information Technology for Development*- Taylor and Francis. Under review.

Kemal, A. and Yan, L., 2015. Mobile Banking Adoption and Diffusion- Enabling and Constraining Social or Financial Inclusion among Poor Women in Pakistan. *Proceedings of 'The Networked Society'. Twenty Third European Conference on Information Systems (ECIS)*: Munster, Germany, 26-29 May 2015. Available in the Association of Information Systems Electronic Library (AISeL) http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1095&context=ecis2015_cr

Kemal, A. and Yan, L., 2015. A Methodological Perspective on Mobile Banking for G2P Payments in Pakistan. *Proceedings of 'Sharing of Research Methods across a Variety of Countries and Cultures'. Fourth International Conference and Doctoral Seminar on Research Methods, ISEOR:* Lyon, France, 10-11 June 2015.

Kemal, A., 2015. Mobile Banking as Enabling and Constraining Financial Inclusion in Pakistan- A Theoretical Perspective. *Proceedings of 'Knowledge Practices in the Contemporary World'. London School of Economics and Political Science (LSE)*: London, UK, 26-26 September 2014. *Published in Special Issue of iS CHANNEL*, Volume 9 (2), pp. 23-34. ISSN 2042-5686 (Online). Available [pdf] at: http://lse.ac.uk/ischannel

Kemal, A., 2013. Mobile Banking: A Revolution or Storm? *Poster Presentation at International Conference on Sustainable Human Development (ISHUD).* Brunel University: London, UK, 3-4 July 2013.

Conference Presentations at Anglia Ruskin University, UK

Abstract Highly Recommended. Mobile Banking for Financial Inclusion in Pakistan. In: '*The Doctoral Journey and Beyond' at the Ninth Annual Research Student Conference, Anglia Ruskin University*: Chelmsford, UK, 19 June 2015.

Awarded on Presentation. Mobile Banking for Financial Inclusion in Pakistan. In: '*The Write Way' at the Eighth Annual Research Student Conference, Anglia Ruskin University*: Chelmsford, UK, 13 June 2014.

Poster Presentation. Mobile Banking: A Revolution or Storm? In: *'Celebrating Success' at the Seventh Ninth Annual Research Student Conference, Anglia Ruskin University*: Cambridge, UK, 28 June 2013.